PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
RRV1596

STEREO AMPLIFIER

A-305R

● Refer to the service manual ARP2852 for A-203/HEXJ.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	A-305R		
HYXJ/EW	O	AC220 – 230V	AC240V, *
HYXJ/GR	O	AC220 – 230V	AC240V, *

* : Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

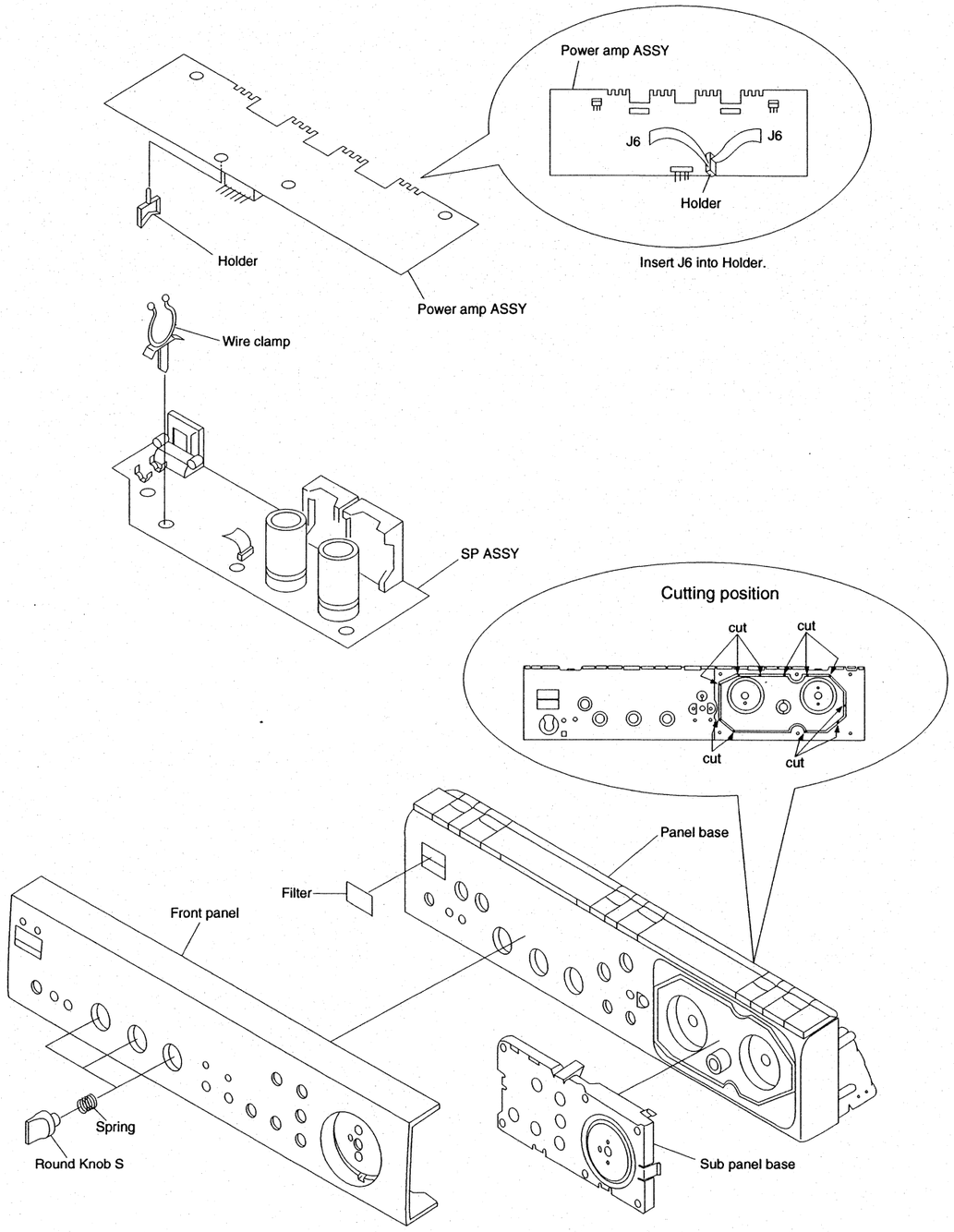
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

A-305R/HYXJ/EW, HYXJ/GR and A-203/HEXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		A-203/HEXJ	A-305R/HYXJ/EW	A-305R/HYXJ/GR	
NSP	AF assy	AWK1787	AWK7302	AWK7302	
	FUNCTION assy	AWZ5492	AWZ8337	AWZ8337	
	CONTROL assy	AWZ5493	AWZ8338	AWZ8338	
NSP	HEADPHONE assy	AWZ5494	AWZ8339	AWZ8339	
	SP assy	AWZ5495	AWZ8340	AWZ8340	
	POWER SW assy	AWZ5496	AWZ8341	AWZ8341	
NSP	TRANS assy	AWZ5497	AWZ8342	AWZ8342	
	POWER AMP assy	AWZ5500	AWZ8343	AWZ8343	
	Power transformer	ATS1538	ATS7119	ATS7119	
⚠	Transistor (Q3, Q4)	2SA1264N	2SA1940(P)	2SA1940(P)	
⚠	Transistor (Q1, Q2)	2SC3181N	2SC5197(P)	2SC5197(P)	
	Name plate	PAM1608	AAM1058	AAM1058	
	Filter	Not used	AAK7141	AAK7141	*
	LED lens	AAK2552	AAK2459	AAK2459	
	Wire clamp	Not used	AEC7022	AEC7022	*
	Front panel (PLS)	AMB2231	Not used	Not used	
	Front panel	Not used	ANB7045	ANB7045	*
	Panel base	Not used	AMB7347	AMB7347	*
	Sub panel base	Not used	AMB7348	AMB7348	*
	Rear panel (MET)	ANC2173	ANC7367	ANC7367	
	Spring	Not used	ABH7055	ABH7055	*
NSP	Holder	Not used	VEC1355	VEC1355	*
	Sheet	AEE1014	AEE7010	AEE7010	
	Operating instructions (English/French/German/ Italian/Swedish/Spanish/ Dutch/Portuguese)	ARE1302	ARE7065	Not used	
	Operating instructions (German)	Not used	Not used	ARC7113	
	Packing case	AHD2672	AHD7281	AHD7281	
	Paper protector A	AHA1660	AHA7061	AHA7061	
	Paper protector B	AHA1661	AHA7062	AHA7062	
	Paper protector C	AHA1662	AHA7063	AHA7063	
	Paper protector D	Not used	AHA7064	AHA7064	For packing
	Paper support	Not used	AHA7136	AHA7136	For packing
NSP	Polyethylene bag	Not used	AHG1217	AHG1217	For packing
	Remote control unit (CU – A014)	Not used	AXD7049	AXD7049	
	Battery cover	Not used	AZN2249	AZN2249	
NSP	Battery (R6P, AA)	Not used	VEM – 013	VEM – 013	

Note* : Refer to page3.

● EXPLODED VIEW



2. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
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- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	*56 × 10¹* →	*561*	*RD1/4PU[5][6][1]J*
47kΩ	→	*47 × 10³* →	*473*	*RD1/4PU[4][7][3]J*
0.5Ω	→	*0R5*		*RN2H[0][R][5]K*
1Ω	→	*1R0*		*RS1P[1][R][0]K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	→	*562 × 10¹* →	*5621*	*RN1/4PC[5][6][2][1]F*

Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES			
NSP		AF ASSY	AWK7302
		├ FUNCTION ASSY	AWZ8337
		├ CONTROL ASSY	AWZ8338
NSP		├ HEADPHONE ASSY	AWZ8339
		├ SP ASSY	AWZ8340
		├ POWER SW ASSY	AWZ8341
NSP		├ TRANS ASSY	AWZ8342
		└ POWER AMP ASSY	AWZ8343
FUNCTION ASSY			
SEMICONDUCTORS			
	IC102		M5220P
⚠	IC104		TA8409S
	IC101		TC9163AN
	IC103		UPC4570C
	Q106 – Q109		2SK246
	D106 – D109		1SS252
COILS AND FILTERS			
	L101 – L104		LAU121J
CAPACITORS			
	C156, C157		CCCSL151J50
	C165, C166		CCCSL220J50
	C101 – C114, C122, C123, C139		CCCSL221J50
	C143, C144		CCCSL221J50
	C118, C119		CCCSL330J50
	C136, C137		CEAS101M25
	C120, C121, C130, C131		CEAS2R2M50
	C159, C160		CEAS2R2M50
	C124, C125		CEAS470M25
	C162		CEAS470M50
	C149, C150		CEGA470M25
	C151 – C154		CEZA470M25
	C155		CFTXA473J50
	C145, C146		CFTXA823J50
	C141, C142, C147, C148		CFTXA824J50
	C133, C138		CKCYB103K50
	C161, C163		CKCYF103Z50
	C115		CKCYF473Z50
	C116, C117, C132		CKPUYB681K50
	C126, C127, C134, C135		CQMA222J50
	C128, C129		CQMA822J50
RESISTORS			
⚠	R115, R116, R148, R149		RD1/8MMF101J
	VR101	(100kΩ)	ACX7006
	Other Resistors		RD1/6PM□□□J

Mark	No.	Description	Parts No.
OTHERS			
	CN11	PIN JACK(8P)	AKB7022
	CN10	PIN JACK(8P)	AKB7023
	CN1	CONNECTOR (15P)	KPE15
CONTROL ASSY			
SEMICONDUCTORS			
	IC201		NJM4558D – D
	IC202		PD6144A
	Q210		2SA933S
	Q211 – Q214		2SC2878
	Q201 – Q209		DTC124ES
	D210 – D214		1SS252
	D209		AEL1065
	D208		AEL1084
	D201 – D206		BR3371XJ30A
COILS AND FILTERS			
	L201		LAU221J
SWITCHES AND RELAYS			
	S208		ASG1019
	S201 – S206		ASG1034
	S207		ASG1079
CAPACITORS			
	C225	(0.047F)	ACH1246
	C223, C224		CCCSL151J50
	C217, C218		CCCSL271J50
	C221, C222		CCCSL470J50
	C219		CEANP220M35
	C205, C206		CEAS2R2M50
	C207, C208, C220, C227, C228		CEAS470M25
	C201		CEJA2R2M50
	C213, C214		CFTXA154J50
	C211, C212		CFTXA184J50
	C209, C210		CFTXA333J50
	C215, C216		CFTXA824J50
	C204		CKCYF103Z50
	C203		CKPUYB102K50
	C202, C229		CKPUYF103Z25
RESISTORS			
	R258, R259		RD1/2PM271J
	VR202, VR203	(10kΩ – 20A×2)	ACS1113
	VR201	(250kΩ)	ACS1114
	Other Resistors		RD1/6PM□□□J

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47kΩ	→	*47 × 10³* →	*473*	*RD1/4PU[4][7][3]J*
0.5Ω	→	*0R5*		*RN2H[0][R][5]K*
1Ω	→	*1R0*		*RS1P[1][R][0]K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	→	*562 × 10¹* →	*5621*	*RN1/4PC[5][6][2][1]F*

Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES			
NSP		AF ASSY	AWK7302
		├ FUNCTION ASSY	AWZ8337
		├ CONTROL ASSY	AWZ8338
NSP		├ HEADPHONE ASSY	AWZ8339
		├ SP ASSY	AWZ8340
		├ POWER SW ASSY	AWZ8341
NSP		├ TRANS ASSY	AWZ8342
		└ POWER AMP ASSY	AWZ8343
FUNCTION ASSY			
SEMICONDUCTORS			
	IC102		M5220P
⚠	IC104		TA8409S
	IC101		TC9163AN
	IC103		UPC4570C
	Q106 – Q109		2SK246
	D106 – D109		1SS252
COILS AND FILTERS			
	L101 – L104		LAU121J
CAPACITORS			
	C156, C157		CCCSL151J50
	C165, C166		CCCSL220J50
	C101 – C114, C122, C123, C139		CCCSL221J50
	C143, C144		CCCSL221J50
	C118, C119		CCCSL330J50
	C136, C137		CEAS101M25
	C120, C121, C130, C131		CEAS2R2M50
	C159, C160		CEAS2R2M50
	C124, C125		CEAS470M25
	C162		CEAS470M50
	C149, C150		CEGA470M25
	C151 – C154		CEZA470M25
	C155		CFTXA473J50
	C145, C146		CFTXA823J50
	C141, C142, C147, C148		CFTXA824J50
	C133, C138		CKCYB103K50
	C161, C163		CKCYF103Z50
	C115		CKCYF473Z50
	C116, C117, C132		CKPUYB681K50
	C126, C127, C134, C135		CQMA222J50
	C128, C129		CQMA822J50
RESISTORS			
⚠	R115, R116, R148, R149		RD1/8MMF101J
	VR101	(100kΩ)	ACX7006
		Other Resistors	RD1/6PM□□□J

Mark	No.	Description	Parts No.
OTHERS			
	CN11	PIN JACK(8P)	AKB7022
	CN10	PIN JACK(8P)	AKB7023
	CN1	CONNECTOR (15P)	KPE15
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	Q210		2SA933S
	Q211 – Q214		2SC2878
	Q201 – Q209		DTC124ES
	D210 – D214		1SS252
	D209		AEL1065
	D208		AEL1084
	D201 – D206		BR3371XJ30A
COILS AND FILTERS			
	L201		LAU221J
SWITCHES AND RELAYS			
	S208		ASG1019
	S201 – S206		ASG1034
	S207		ASG1079
CAPACITORS			
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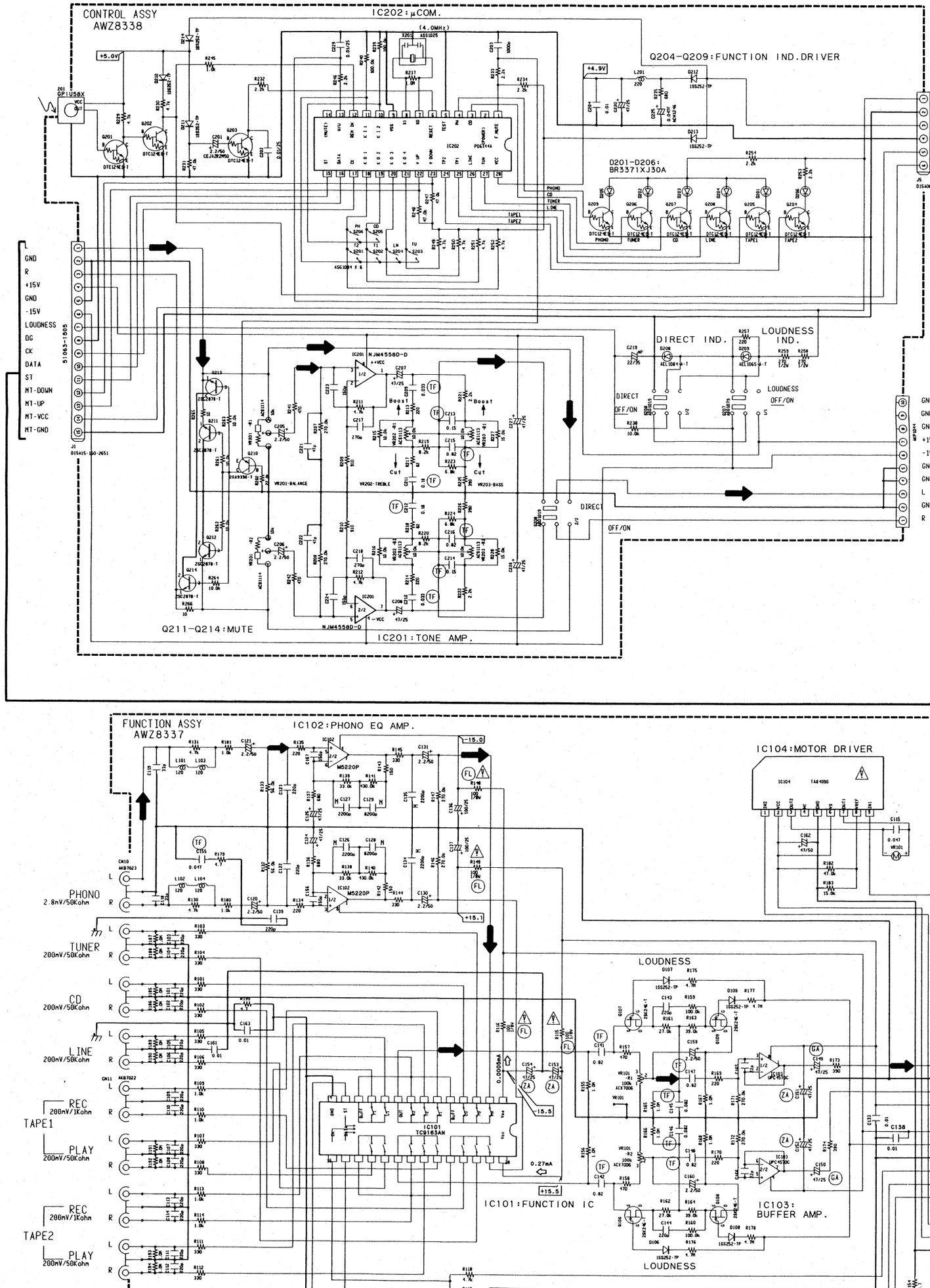
	C223, C224		CCCSL151J50
	C217, C218		CCCSL271J50
	C221, C222		CCCSL470J50
	C219		CEANP220M35
	C205, C206		CEAS2R2M50
	C207, C208, C220, C227, C228		CEAS470M25
	C201		CEJA2R2M50
	C213, C214		CFTXA154J50
	C211, C212		CFTXA184J50
	C209, C210		CFTXA333J50
	C215, C216		CFTXA824J50
	C204		CKCYF103Z50
	C203		CKPUYB102K50
	C202, C229		CKPUYF103Z25
RESISTORS			
	R258, R259		RD1/2PM271J
	VR202, VR203	(10kΩ – 20A×2)	ACS1113
	VR201	(250kΩ)	ACS1114
		Other Resistors	RD1/6PM□□□J

Mark	No.	Description	Parts No.
OTHERS			
		REMOTE RECEIVER UNIT	GPIU58X
		CABLE HOLDER(6P)	51063 – 0605
		CABLE HOLDER(15P)	51063 – 1505
		SOCKET(10P)	AKP1044
	X201	(4.00MHz)	ASS1025
HEADPHONE ASSY			
SWITCHES AND RELAYS			
	S501		SUL6LXXS
CAPACITORS			
	C511, C512		CKCYB392K50
RESISTORS			
⚠	R511, R512		RS2LMF331J
OTHERS			
		CABLE HOLDER(8P)	51063 – 0805
	JA8510	JACK	RKN1002
SP ASSY			
SEMICONDUCTORS			
⚠	Q402		2SA1932P
⚠	Q401		2SC5174P
⚠	Q403		2SD2395
	D405, D406, D410, D413		1SS252
⚠	D401		D5SBA20(B)
	D414, D417		MTZJ5.6B
	D403, D404, D412		RD16ESB2
	D407 – D409, D411, D416		S5566
CAPACITORS			
⚠	C413	(0.01μF, 250V)	ACG7005
	C401, C402	(6800μF, 50V)	ACH1105
	C408, C410, C411		CEAS100M50
	C407		CEAS101M50
	C409		CEAS102M50
	C412		CEAS470M50
	C403, C404		CEZA101M25
	C405, C406		CEZA470M25
	C451 – C454		CKCYB472K50
RESISTORS			
⚠	R410		RD1/2PMF471J
	R412		RD1/6PM103J
⚠	R401, R402, R407, R413 – R415		RD1/8MMF4R7J
⚠	R417		RD1/8MMF4R7J
		Other Resistors	RD1/4PM□□□J
OTHERS			
		CABLE HOLDER(7P)	51063 – 0705
		SCREW	ABA – 298
		SPEAKER TERMINAL 8 – P	AKE1011
	CN7	JACK	AKN – 207
⚠	CN401	AC INLET	AKP7005
		HEAT SINK	ANH – 880
	KN401	GROUND PLATE	ANK – 142
	CN2	CONNECTOR(15P)	KPE15
	CN5	CONNECTOR(6P)	KPE6
POWER SW ASSY			
SWITCHES AND RELAYS			
⚠	S601		ASG1035
CAPACITORS			
⚠	C601	(0.01μF, 250V)	ACG7005
TRANS ASSY			
CAPACITORS			
	C701		CQMXA474J100

Mark	No.	Description	Parts No.
RESISTORS			
⚠	R702		RD1/4PMF100J
⚠	R701, R703		RD1/4PMF220J
		Other Resistors	RD1/4PM□□□J
OTHERS			
	CN4	CONNECTOR(7P)	KPE7
POWER AMP ASSY			
SEMICONDUCTORS			
	IC301		UPC4570C
	Q305, Q306		2SA1145
	Q313, Q314		2SA1837
	Q320		2SA933S
	Q303, Q304		2SA992
	Q317, Q318		2SC1740S
	Q301, Q302, Q315, Q316		2SC1845
	Q319		2SC2240
	Q309, Q310		2SC2458
	Q307, Q308		2SC2705
	Q311, Q312		2SC4793
	D301 – D308, D313 – D322, D334		1SS252
	D323		MTZJ13
	D333		MTZJ27A
	D309 – D312		MTZJ6.2A
SWITCHES AND RELAYS			
	RY301		ASR1035
CAPACITORS			
	C329 – C332		CCCSL101K500
	C309 – C312		CCCSL560K500
	C326		CEAS101M25
	C317		CEAS471M6
	C315, C316		CEAS4R7M50
	C327, C328		CEZA100M50
	C313, C314		CEZA2R2M50
	C305, C306, C324, C325		CEZA470M25
	C319 – C322		CFTXA224J50
	C301, C302		CFTXA824J50
	C303, C304		CKCYB471K50
	C323		CKCYF103Z50
RESISTORS			
⚠	R347, R348	(0.33Ω, 5W)	ACN7001
⚠	R362		RD1/2LMF331J
⚠	R363		RD1/2LMF391J
⚠	R369, R370		RD1/2LMF4R7J
⚠	R385		RD1/4PMF100J
⚠	R357		RD1/4PMF101J
⚠	R349, R350		RD1/4PMF222J
⚠	R386		RD1/8MMF100J
⚠	R337 – R340		RD1/8MMF101J
⚠	R341, R342		RD1/8MMF271J
⚠	R367, R368, R387, R388		RD1/8MMF4R7J
⚠	R323 – R326		RD1/8MMF511J
⚠	R327 – R330		RD1/8MMF680J
	R371, R372		RDR1/4PM392J
⚠	R343 – R346		RFA1/4PS4R7J
	R331, R332		RN1/4PC1501F
	R335, R336		RN1/4PC6800F
		Other Resistors	RD1/6PM□□□J
OTHERS			
		CABLE HOLDER(15P)	51063 – 1505
		PLUG(10P)	AKM1037
	KN2, KN3	GROUND PLATE	ANK – 142
	CN3	CONNECTOR(8P)	KPE8

3. SCHEMATIC AND PCB CONNECTION DIAGRAMS



NOTE

1. Wh
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3. RESI
Unit:
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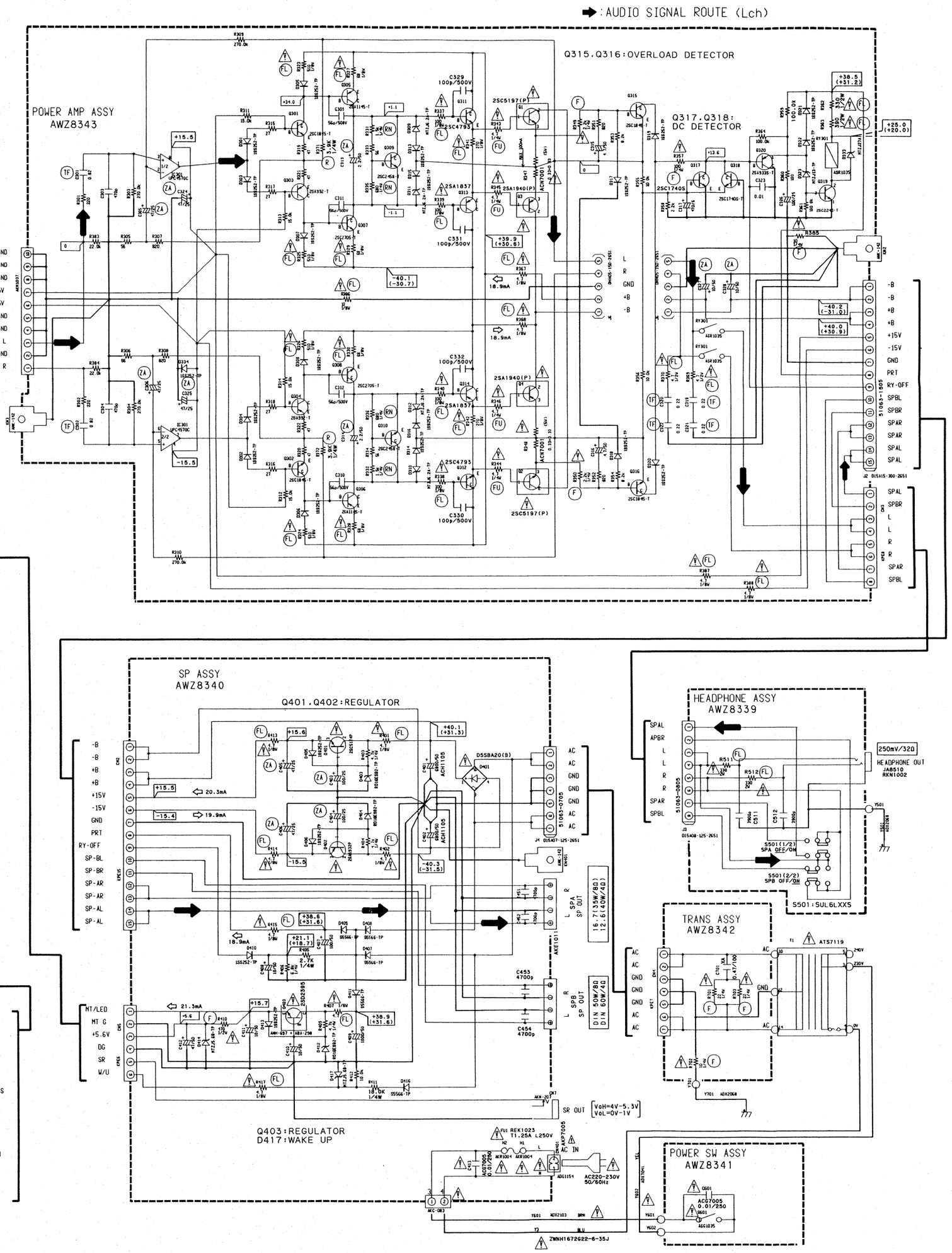


NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/voltage(V) unless othrewise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   or ← V:
   DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA or ← mA:
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ⊘ : Adjusting point.
   - ◄ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH-□ ON THE SCHEMATIC DIAGRAM:**
   - SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):

CONTROL ASSY
- S201 : TAPE 2
- S202 : TAPE 1
- S203 : TUNER
- S204 : LINE
- S205 : CD
- S206 : PHONO
- S207 : LOUDNESS OFF/ON
- S208 : DIRECT OFF/ON

POWER SW ASSY
- S601 : POWER

HEADPHONE ASSY
- S501 : SPA OFF/ON
  SPB OFF/ON

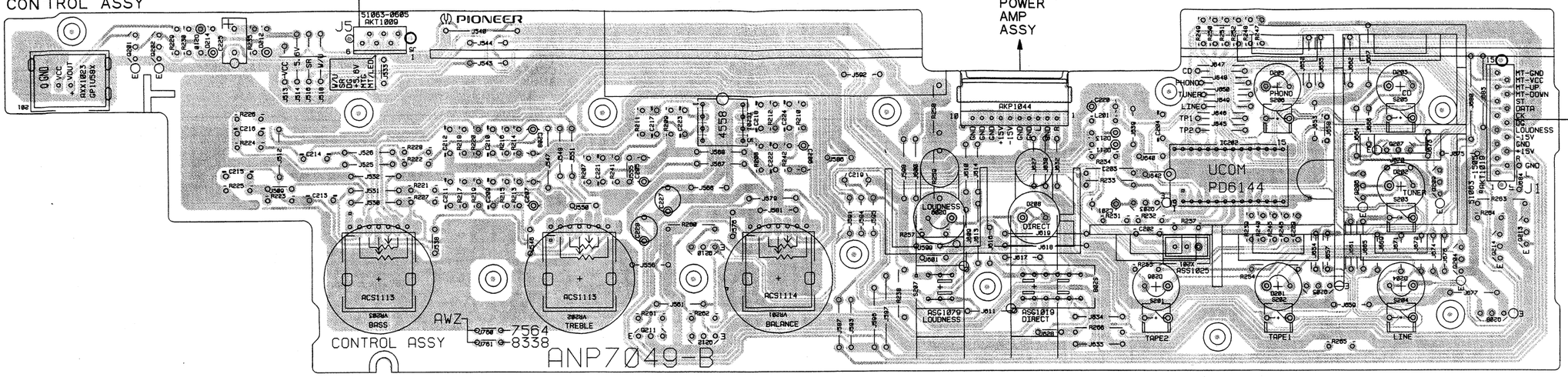
• This diagram is viewed from the mounted parts side.

PCB-1

CONTROL ASSY

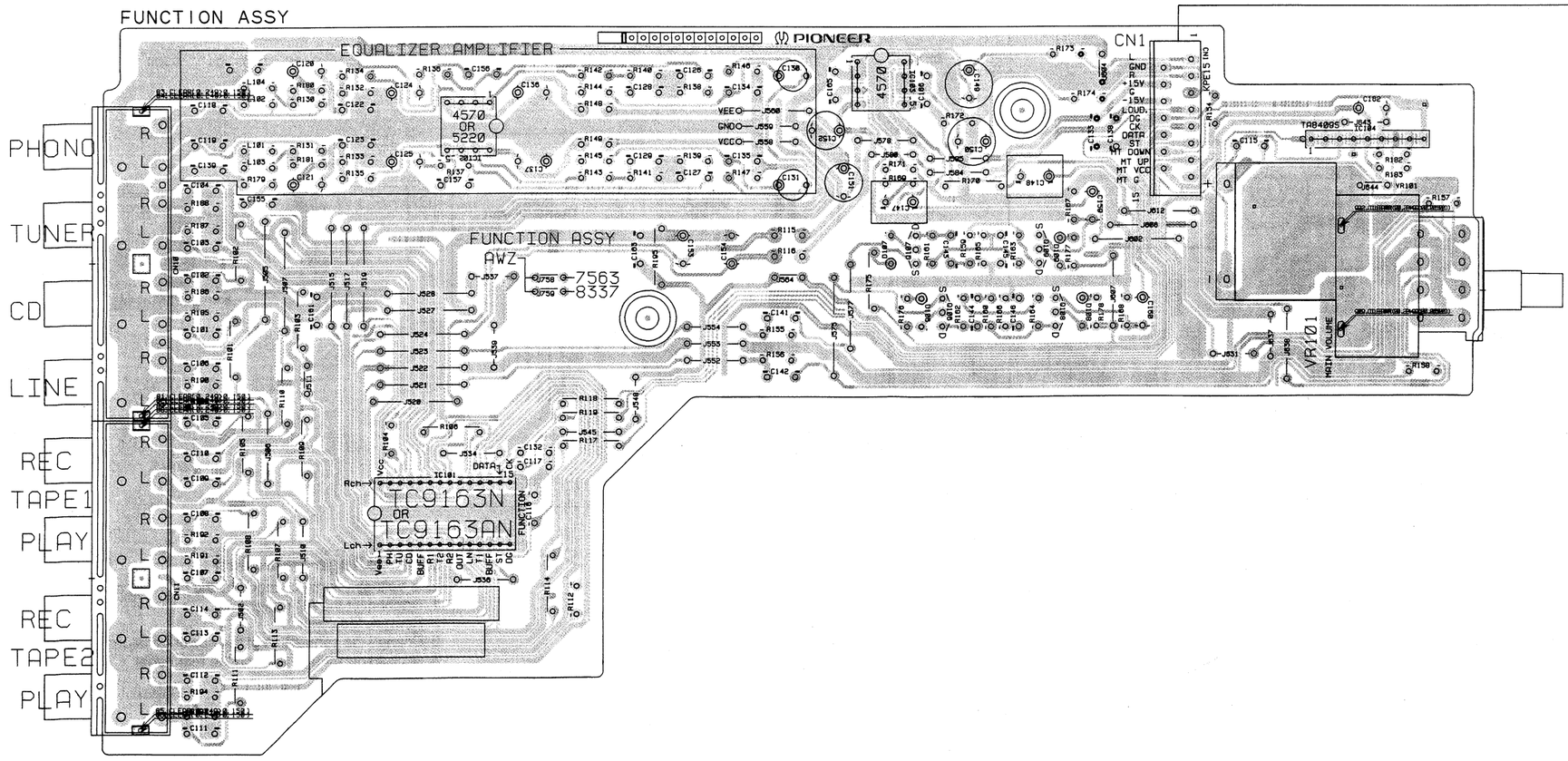
TO SP ASSY CN5

TO POWER AMP ASSY



Q201 Q202 Q211 Q210 IC201 Q212 Q203 IC202 Q205 Q206 Q207 Q209 Q204 Q214 Q208 Q213

FUNCTION ASSY



IC101 IC102 IC103 Q107 Q106 Q109 Q108 IC104

NOTE FOR PCB DIAGRAMS

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
Q504 (E, B, C) Q504	Q504 Q504	Transistor
D203 D203	D203	Diode
C513 C513	C513	Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ◎ or ▷ shows cathode side.
5. The capacitor terminal marked with ◎ or ⊏ shows negative terminal.
6. The parts mounted on each PCB include all necessary parts for several destinations. For futher information for respective destinations, be sure to check with the schematic diagram.

● This diagram is viewed from the mounted parts side.

PCB-2

HEADPHONE ASSY

POWER AMP ASSY

TO CONTROL ASSY

TO CONTROL ASSY J5

SP ASSY

TRANS ASSY

POWER SW ASSY

SPEAKER TERMINAL

AC INLET

AC IN

T1 POWER TRANSFORMER

(240V)

(220-230V)

Q309 Q3 Q313 Q319 Q307 Q320 Q303 Q318 Q317 Q1 Q301 Q311 Q305 Q315 Q2 Q316 Q306 IC301 Q4 Q302 Q312 Q304 Q310 Q308 Q314

Q402 Q401 Q403

ANP7049-B

Line Voltage Selection

Line Voltage can be changed by the following modification:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of the power transformer primary taps.
4. Stick a line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

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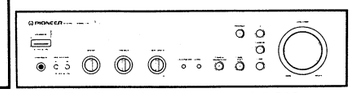
The Art of Entertainment

Service Manual



The illustration shows model A-203.

ORDER NO.
ARP2852

STEREO AMPLIFIER

A-203

A-103

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	A-203	A-103		
HEXJ	○	○	AC220—230V	AC240V, ✱
HBXJ	○	○	AC240V	AC220—230V, ✱
HEWZXJ	○	○	AC220—230V	AC240V, ✱
HLXJ	○	○	AC220—230V	AC240V, ✱
SDXJ	○	○	AC110V/120—127V/220V/240V	With the voltage selector
YPWXJ	—	○	AC240V	—

✱ : Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

• **For the following: A-203/HBXJ, HEWZXJ, HLXJ and SDXJ; A-103/HBXJ, HEWZXJ, HLXJ, SDXJ and YPWXJ, refer to page 22.**

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1. DISASSEMBLY

● CHECKING FOR POWER AMP ASSY

1. Remove the bonnet.

2. Remove the VOLUME knob and unscrew nut the ① (Fig. 1).

3. Unscrew the fastening screws ② of the front panel (2 upper and 5 lower screws.).

4. Unscrew the fastening screws ③ (1 screw) and ④ (2 screws) of the RADIATOR.

5. Lift up the RADIATOR (in the direction of the arrow ⑤) approximately 5mm, and remove it from the chassis hook.

6. Remove the lower hooks ⑥ of the front panel (2 places).

7. Slowly remove the front panel together with the RADIATOR. When doing this, be careful so that the flat cable ⑦ form CN 1 does not get caught.

8. When the VOLUME knob shaft ⑨ has been distanced from the front panel, lower the fins of the RADIATOR as shown in Fig. 2 and raise the shaft.

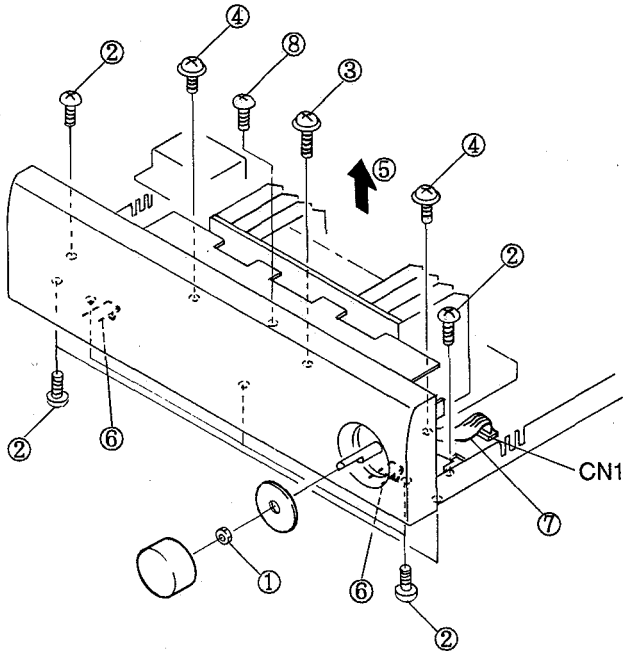


Fig. 1

● HOW TO REMOVE THE POWER AMP ASSY

1. Remove the fastening screw ③ of the RADIATOR (1 screw) and ④ (2 screws) and the center fastening screw ⑧ (1 screw) of the POWER AMP ASSY (Fig. 1).

2. Lift up the RADIATOR (in the direction of the arrow ⑤) approximately 5mm, and remove it from the chassis hook.

3. Pull the RADIATOR backward and remove the POWER AMP ASSY and RADIATOR together.

Note : The CONTROL ASSY of the front panel and the POWER AMP ASSY are connected only with connectors, and they can the refore be easily removed by carrying out the above operations.

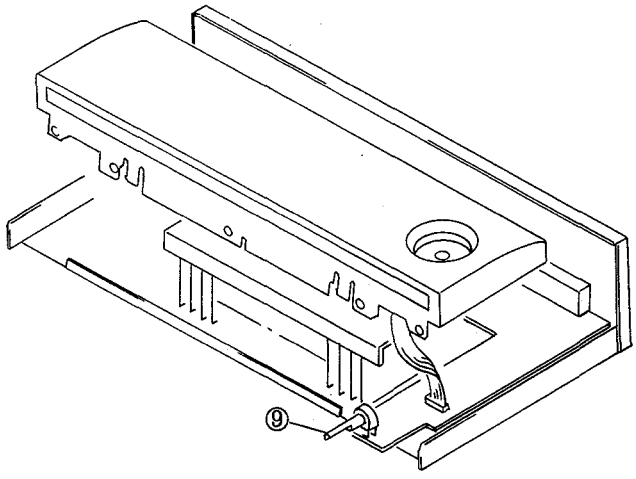


Fig.2

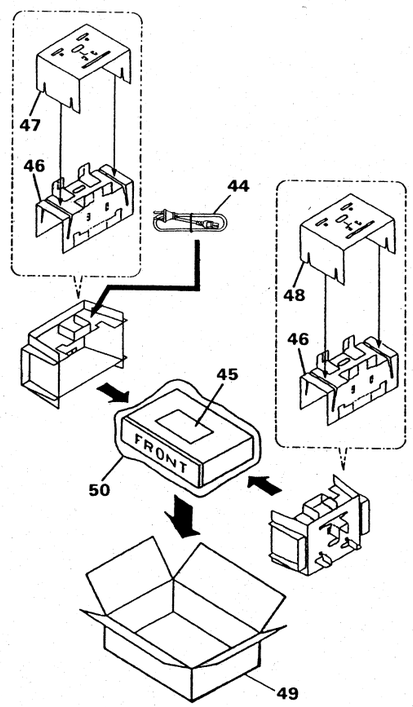
2. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

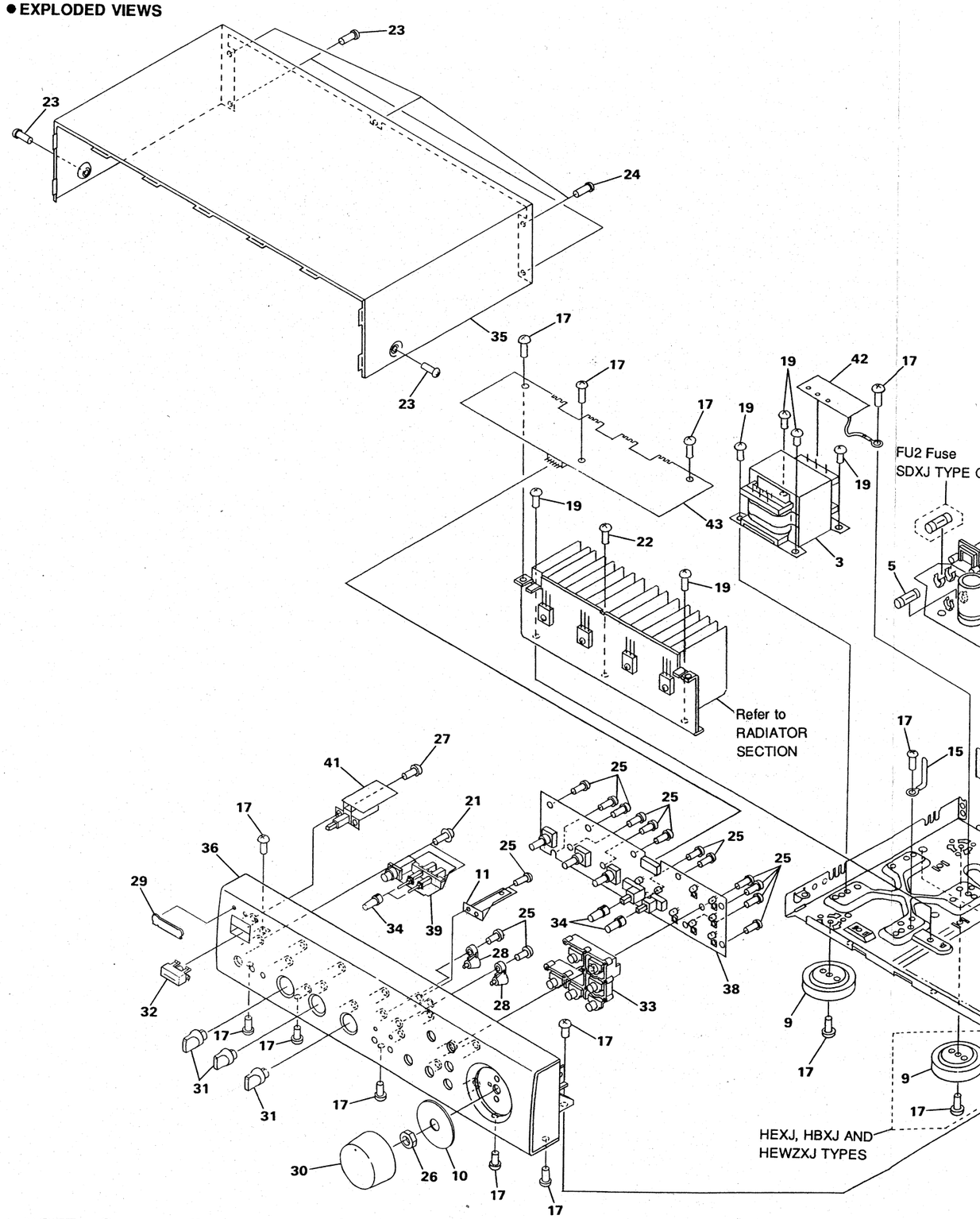
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Mark	No.	Description	Parts No.
⚠	1	Q3,Q4 TRANSISTOR (For A−203)	2SA1264N
⚠	1	Q3,Q4 TRANSISTOR (For A−103)	2SA1803
⚠	2	Q1,Q2 TRANSISTOR (For A−203)	2SC3181N
⚠	2	Q1,Q2 TRANSISTOR (For A−103)	2SC4688
⚠	3	T1 POWER TRANSFORMER (For A−203)	ATS1538
⚠	3	T1 POWER TRANSFORMER (For A−103)	ATS1540
	4	TERMINAL SCREW	AKE−031
⚠	5	FU1 FUSE (1.25A) (For A−203)	REK1023
⚠	5	FU1 FUSE (800mA) (For A−103)	REK1021
NSP	6	CHASSIS(MET)	ANA1228
	7	REAR PANEL (For A−203)	ANC2173
	7	REAR PANEL (For A−103)	ANC2177
NSP	8	RADIATOR (For A−203)	ANH1464
NSP	8	RADIATOR (For A−103)	ANH1465
	9	INSULATOR	PNW1912
	10	RING(MET)	ANG1917
	11	PCB HOLDER(MET)	ANG1918
	12	PCB SPACER(PLS)	AEC1566
	13	PCB SPACER(PLS)	AEC1567
	14	SHEET (A−203 only)	AEE1014
	15	BINDER	AEP−215
	16	PCB MOLD(PP)	AMR2533
	17	SCREW	ABA−298
	18	SCREW	ABA1018
	19	SCREW	ABA1027
	20	SCREW	ABA1082
	21	SCREW (STEEL)	ABA1095
	22	SCREW (STEEL)	ABA1193
	23	SCREW	BBT30P080FZK
	24	SCREW	BCZ30P080FZK
	25	SCREW	BPZ26P080FMC
	26	NUT	NK70FUC
	27	SCREW	VPZ30P100FMC
	28	LED LENS	AAK2552
	29	NAME PLATE	PAM1608
	30	ROUND KNOB L (PLS)	AAB1340
	31	ROUND KNOB S (PLS)	AAB2221
	32	POWER BUTTON	AAD2539
	33	FUNCTION BUTTON	AAD2540
	34	PUSH BUTTON (PLS)	AAD4045
	35	BONNET CASE	ANE1464
	36	FRONT PANEL (For A−203)	AMB2231
	36	FRONT PANEL (For A−103)	AMB2232
	37	FUNCTION ASSY	AWZ5492
	38	CONTROL ASSY	AWZ5493
	39	HEADPHONE ASSY (For A−203)	AWZ5494
	39	HEADPHONE ASSY (For A−103)	AWZ5498
	40	SP ASSY (For A−203)	AWZ5495
	40	SP ASSY (For A−103)	AWZ5499
	41	POWER SW ASSY	AWZ5496
	42	TRANS ASSY (For A−203)	AWZ5497
	42	TRANS ASSY (For A−103)	AWZ5538
	43	POWER AMP ASSY (For A−203)	AWZ5500
	43	POWER AMP ASSY (For A−103)	AWZ5501
⚠	44	AC POWER CORD	ADG1154
	45	OPE. INSTRUCTIONS (English, French, German, Itarian, Dutch, Swedish, Spanish, Portuguese)	ARE1302
	46	PAPER PROTECTOR A	AHA1660
	47	PAPER PROTECTOR B	AHA1661
	48	PAPER PROTECTOR C	AHA1662
	49	PACKING CASE (For A−203)	AHD2672
	49	PACKING CASE (For A−103)	AHD2673
	50	PACKING SHEET	AHG1212

● **PACKING**



● **EXPLODED VIEWS**



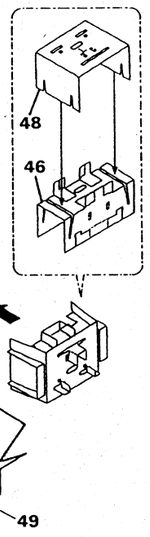
NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

IST

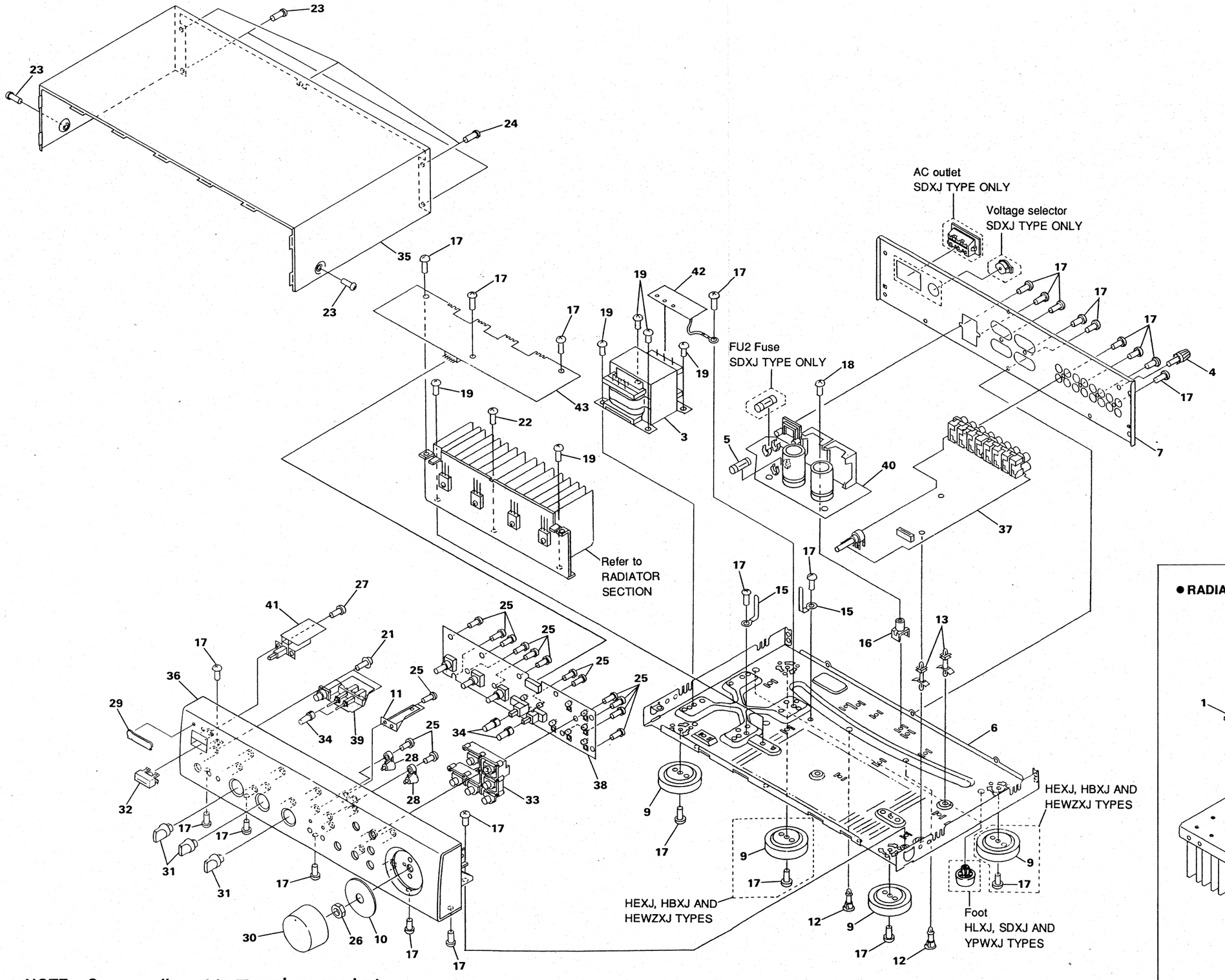
en replacing, be sure to

unavailable.

	Parts No.
	AWZ5493
203)	AWZ5494
103)	AWZ5498
	AWZ5495
	AWZ5499
	AWZ5496
	AWZ5497
	AWZ5538
203)	AWZ5500
103)	AWZ5501
	ADG1154
	ARE1302
ese)	
	AHA1660
	AHA1661
	AHA1662
)	AHD2672
)	AHD2673
	AHG1212

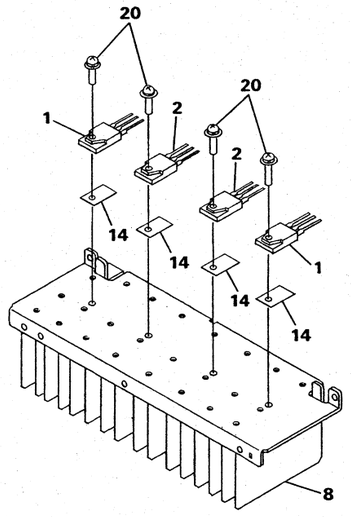


● **EXPLODED VIEWS**



NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

● **RADIATOR SECTION**



3. SCHEMATIC DIAGRAM

IC102: PHONO EQ

Q2: MODE SELECTOR CONTROL

FUNCTION ASS'Y
AWZ5492(EXCEPT A-203/HBXJ)
AWZ5521(A-203/HBXJ)

This schematic diagram is
∘A-203/HEXJ,HBXJ,HEWZXJ,H
∘A-103/HEXJ,HBXJ,HEWZXJ,H

NOTE:
**:EXCEPT A-203/HBXJ
* :A-203/HBXJ ONLY

Q106-Q109: LOUDNESS ON/OFF

IC101: INPUT SELECTOR

Q101-Q104: REC1 MUTE

IC103:BUFFER

LOUDNESS

EXCEPT A-203/HBXJ

PHONO
CD
TUNER
LINE
PLAY
TAPE1 REC
PLAY
TAPE2 REC

FROM FUNCTION ASS'Y: +15V, L, GND, R, CD, PHONO, TUNER, TAPE2, TMOUT, TAPE1, LINE, LOUDNESS, +15V, MUTE, -15V

TO CONTROL ASS'Y: +15V, OUT L, GND, OUT R, CD, PHONO, TUNER, TAPE2, TMOUT, TAPE1, LINE, LOUDNESS, +15V, MUTE, -15V

POWER AMP ASS'Y
AWZ5500(A-203)
AWZ5501(A-103)

IC301,Q301-Q314,Q1-Q4:POWER AMP

	A-203	A-103
R371	3.9K	3.3K

A-103 ONLY

	A-203	A-103
R372	3.9K	3.3K

	A-203	A-103
Q1,Q2	2SC3181N	2SC4688
Q3,Q4	2SA1264N	2SA1803

	A-203	A-103
R359	100K	82K
R362,R363	330	270

Q321: +15V REGULATOR

Q322: -15V REGULATOR

Q317,Q318: DC DETECTOR

Q319: RELAY DRIVE

Q315,Q316: OVER LOAD DETECTOR

FROM CONTROL ASS'Y: LED, L G, L G, +15V, GND, -15V, GND, L IN, GND, R IN

J5: L, R, GND, +B, -B

J2: -B, -B, +B, +B, PRT, 15V, PRT C, GND, GND, SP-A L, SP-B R, SP-B L, SP-A R

TO SP ASS'Y

J3: L OUT, SP-B R, SP-A L, GND, R OUT, SP-A R, SP-B L

TO HEADPHONE ASS'Y

FROM POWER AMP ASS'Y

HEADPHONE ASS'Y
AWZ5498 (A-103)

HEADPHONE ASS'Y
AWZ5494 (A-203)

SP-B OFF/ON

SP-A OFF/ON

am is apricable to the following:
ZXJ,HLXJ and SDXJ
ZXJ,HLXJ,SDXJ and YPWXJ

CONTROL ASS'Y
AWZ5493(EXCEPT A-203/HBXJ)
AWZ5523(A-203/HBXJ)

:Audio signal route(Lch)

A-203/HBXJ ONLY

BALANCE

TREBLE

BASS

DIRECT ON/OFF

Q201,Q202:MUTE

R OUT
GND
L OUT
GND
-15V
GND
+15V
L G
L G
LED

TO POWER AMP ASS'Y

EXCEPT A-203/HBXJ

IC201:TONE CONTROL

DIRECT ON/OFF

LOUDNESS (EXCEPT HBXJ TYPE) MUTE (HBXJ TYPE) ON/OFF

S207:
LOUDNESS:EXCEPT A-203/HBXJ
MUTE:A-203/HBXJ

A-203/HBXJ ONLY

TAPE2
TAPE1 D201
LINE D202
TUNER D203
CD D204
PHONO D205
TAPE2 D206

EXCEPT SDXJ TYPE

TRANS ASS'Y
AWZ5497 (A-203)
AWZ5536 (A-103)

HBXJ/YPWXJ
HEXJ/HEWZXJ/HLXJ

TO SP ASS'Y

AC
+B
GND
GND
AC
-B

D701:
D5SB20F(A-203)
D3SBA20(A-103)

AWZ5496(EXCEPT HBXJ TYPE)
AWZ5526(HBXJ TYPE)
POWER SW ASS'Y

SDXJ TYPE

VOLTAGE SELECTOR AKX-507

AC OUTLET AKP-515

FOR SCHEMATIC DIAGRAM, REFER TO "EXCEPT SDXJ TYPE" SECTION

POWER SW ASS'Y
AWZ5496
FOR SCHEMATIC DIAGRAM, REFER TO "EXCEPT SDXJ TYPE" SECTION

FROM POWER AMP ASS'Y

-B
-B
+B
+B
PRT
15V
PRT G
GND
GND
SP-A L
SP-B R
SP-B L
SP-A R

SP ASS'Y

AWZ5495 A-203/HEWZXJ/HEXJ/HLXJ
AWZ5524 A-203/HBXJ
AWZ5525 A-203/SDXJ
AWZ5499 A-103/HEWZXJ/HEXJ/HLXJ/YPWXJ
AWZ5529 A-103/HBXJ
AWZ5530 A-103/SDXJ

Q401:
+15V REGULATOR

FROM TRANS ASS'Y

AC
+B
GND
GND
AC
-B

A-103/HEXJ,HEWZXJ,HLXJ,YPWXJ ONLY

EXCEPT SDXJ TYPE

AC IN:
AKP1132(EXCEPT HBXJ TYPE)
AKP1133(HBXJ TYPE)

AC POWER CORD
ADG1158

AC POWER CORD
ADG1154(HEXJ,HEWZXJ,HLXJ TYPES)
ADG1156(HBXJ TYPE)
ADG1160(YPWXJ TYPE)

AKE1011 (EXCEPT HBXJ TYPE)
AKE1036 (HBXJ TYPE)

SP-B
SP-A
A-203
A-103

NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   or ← V :
   DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   Value in { } is DC voltage for A-103.
   ⇦ mA or ← mA :
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ❶ : Adjusting point.
   - ◄ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH—□ ON THE SCHEMATIC DIAGRAM:**
   - SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):

CONTROL ASSY
S201 : TAPE2 MONITOR
S202 : TAPE1/DAT
S203 : LINE
S204 : TUNER
S205 : CD
S206 : PHONO
S207 : LOUDNESS (Except HBXJ TYPE) MUTING (HBXJ TYPE ONLY)
S208 : DIRECT ON-OFF

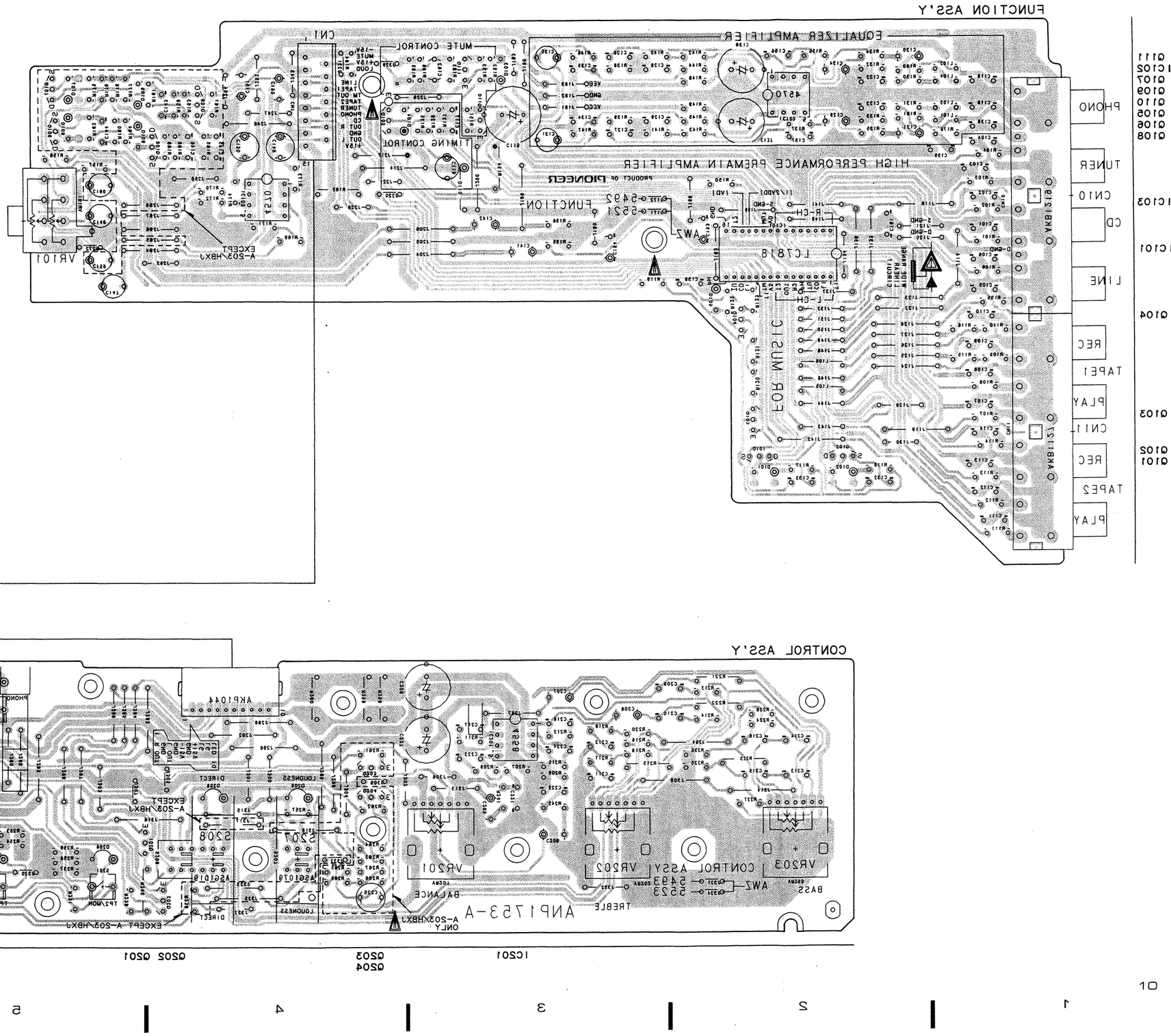
HEADPHONE ASSY
S501-1 : A(SPEAKERS)ON-OFF
S501-2 : B(SPEAKERS)ON-OFF (A-203 ONLY)

POWER SW ASSY
S601 : POWER

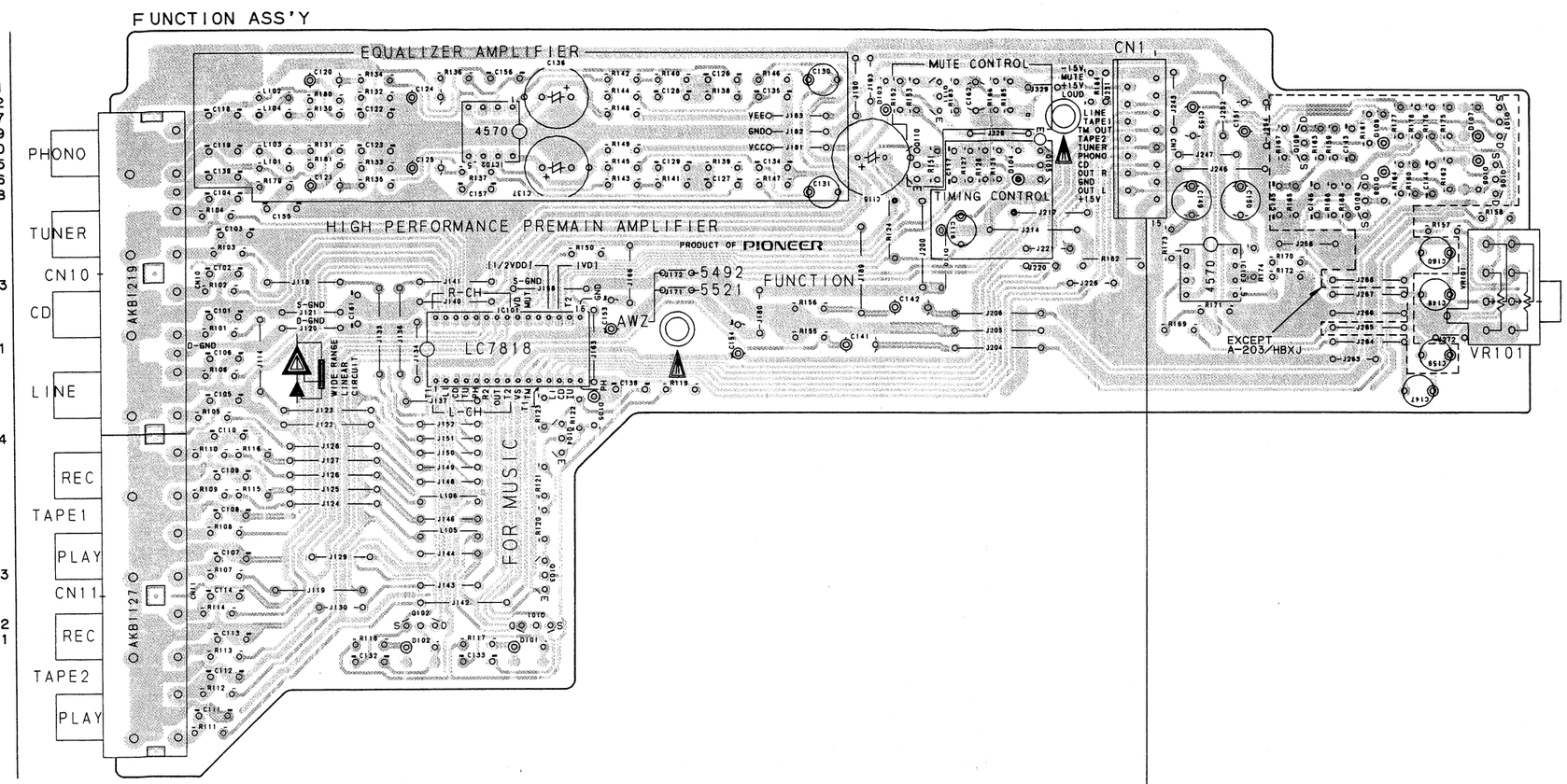
4. PCB CONNECTION DIAGRAMS

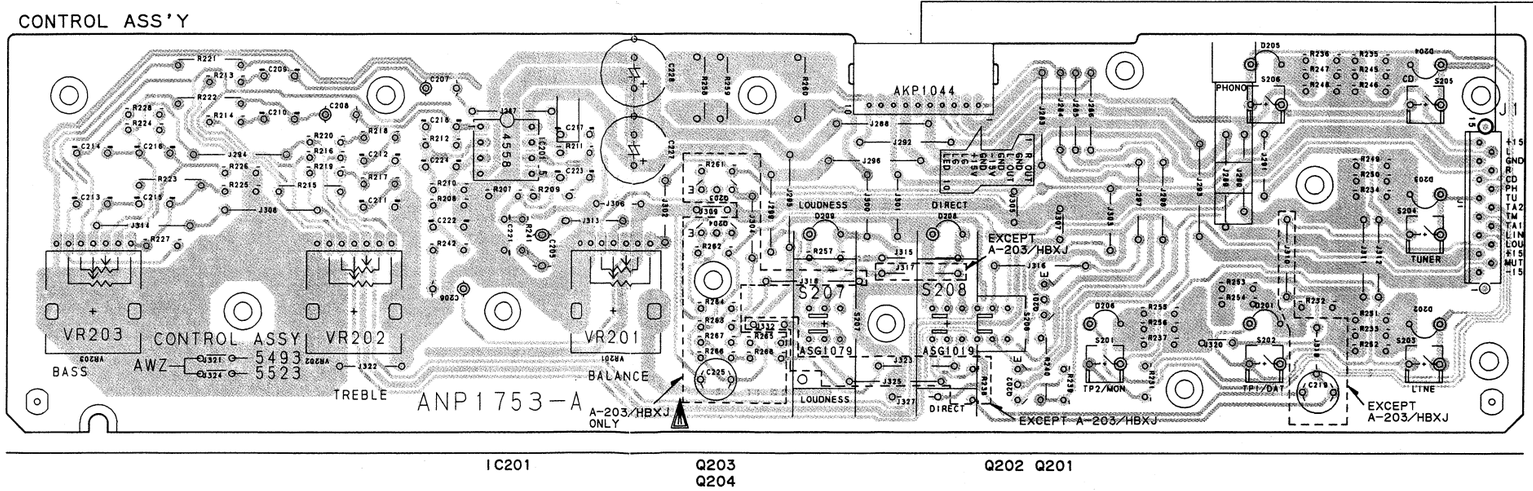
- This diagram is viewed from the foil side.

PCB-1



● This diagram is viewed from the mounted parts side.





PCB-1

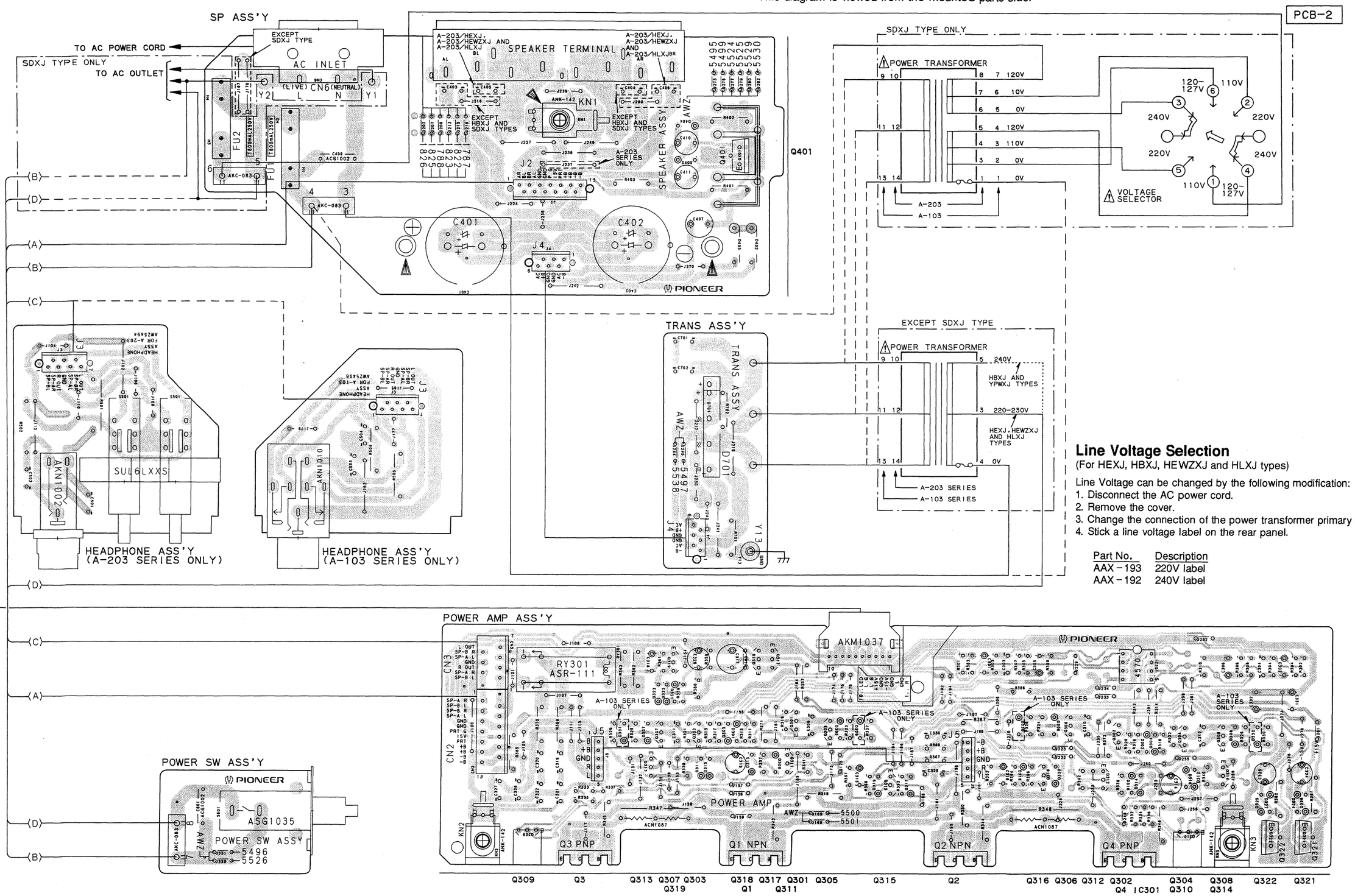
NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
Q504 E / Q504	Q504 Q504	Transistor
D203 / D203	D203	Diode
C513 / C513	C513	Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ◎ or ⊐ shows cathode side.
5. The capacitor terminal marked with ◎ or ⊏ shows negative terminal.

● This diagram is viewed from the mounted parts side.



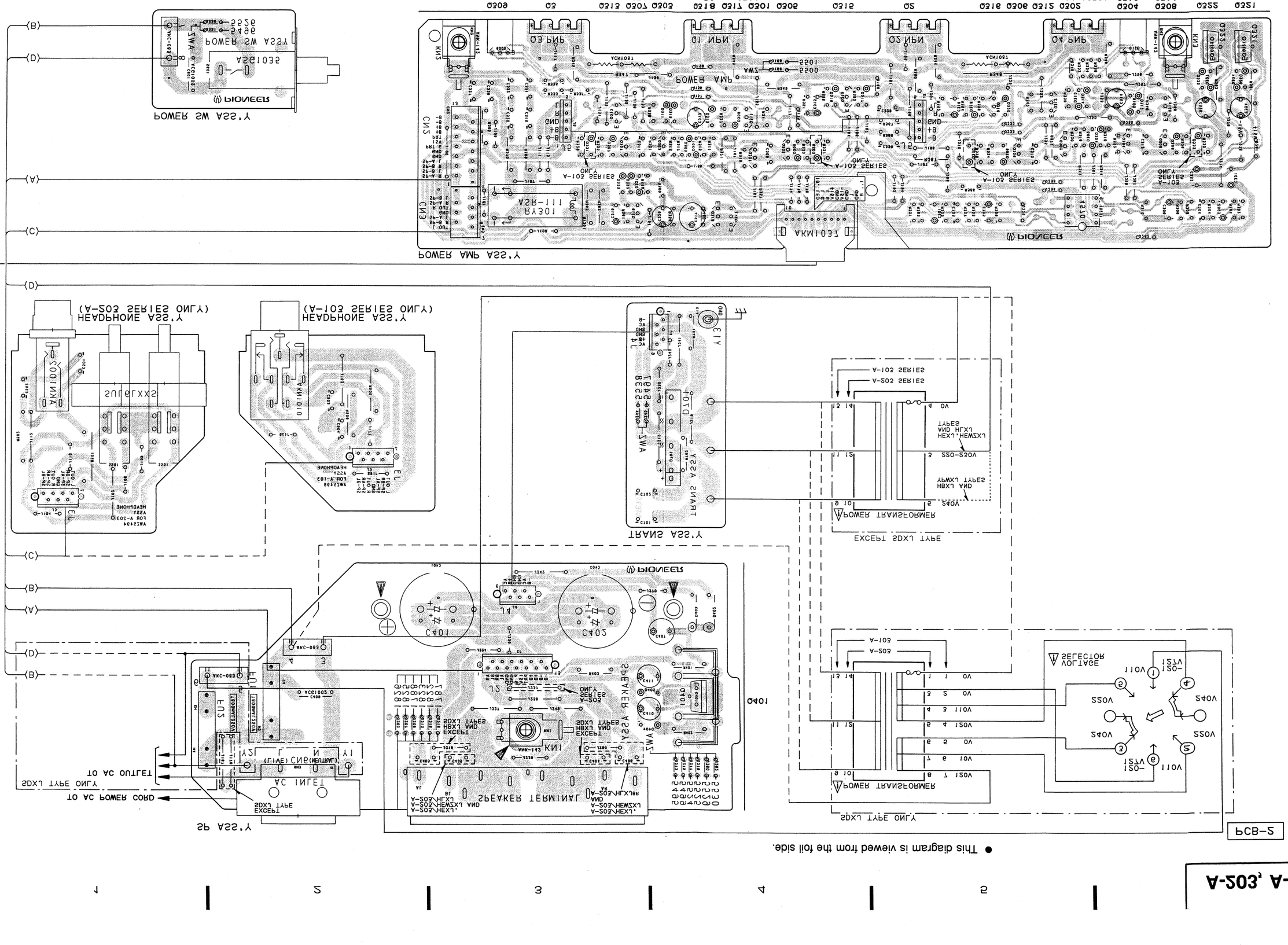
Line Voltage Selection

(For HEXJ, HBXJ, HEWZXJ and HLXJ types)

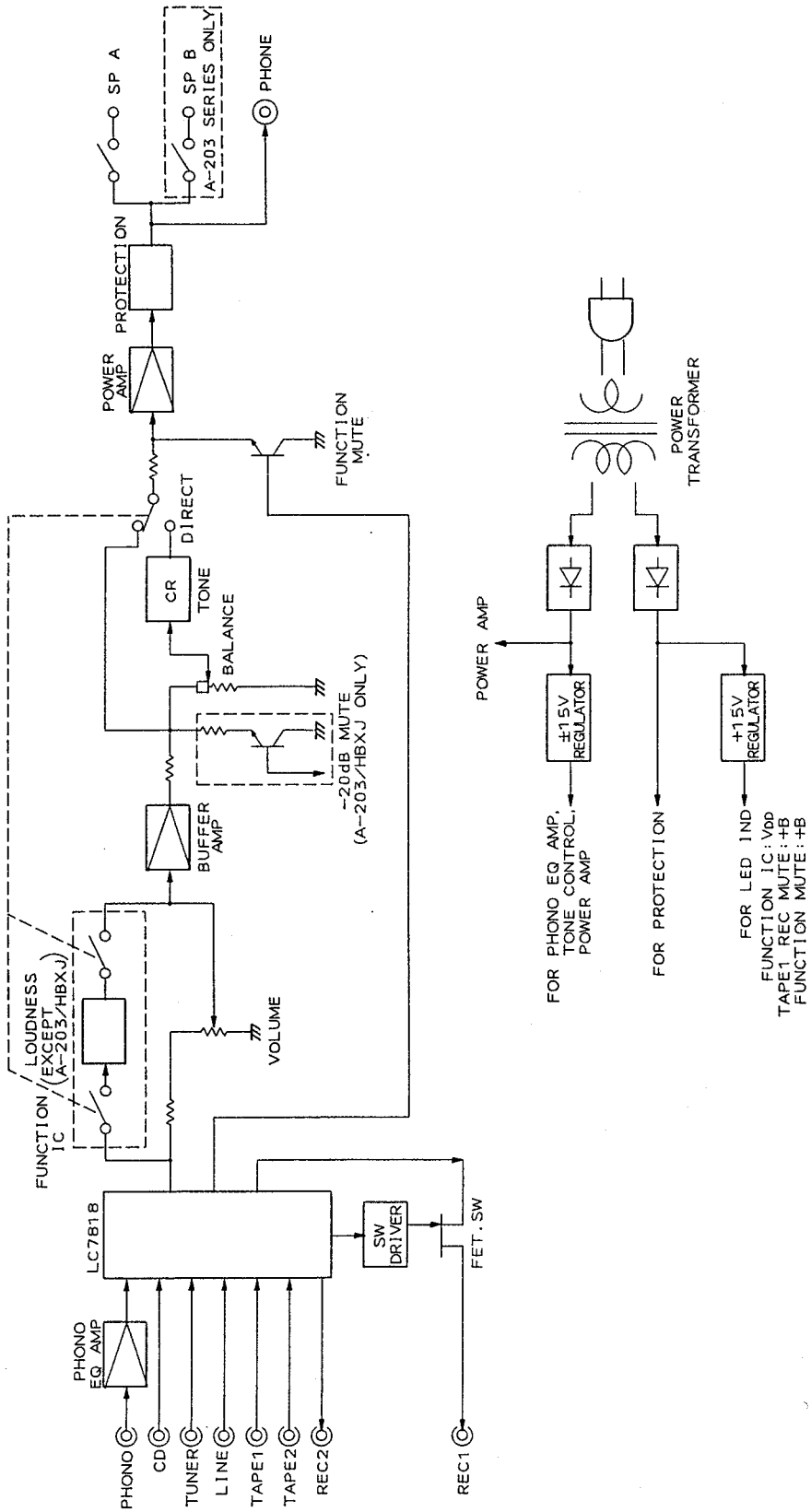
Line Voltage can be changed by the following modification:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of the power transformer primary taps.
4. Stick a line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label


POWER SW ASS'Y
POWER AMP ASS'Y
(A-503 SERIES ONLY)
HEADPHONE ASS'Y
(A-103 SERIES ONLY)
HEADPHONE ASS'Y
TRANS ASS'Y
SPEAKER ASS'Y
SPEAKER TERMINAL
AC INLET
TO AC POWER CORD
TO AC OUTLET
SDXL TYPE ONLY
EXCEPT SDXL TYPE
POWER TRANSFORMER
SELECTOR VOLTAGE
PCB-S
A-103, A-503
This diagram is viewed from the foil side.

5. BLOCK DIAGRAM



6. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	*56×10¹ → 561*	*RD1/8PM 5 6 1 J*
47kΩ	→	*47×10³ → 473*	*RD1/4PS 4 7 3 J*
0.5Ω	→	*0R5*	*RN2H 0 R 5 K*
1Ω	→	*010*	*RS1P 0 1 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ→ 562×10¹ → 5621 ..... *RN1/4PC 5 6 2 1 F*

Mark	No.	Description	Parts No.	Mark
LIST OF ASSEMBLIES				
NSP	AF ASSY (For A−203)		AWK1787	
	├	FUNCTION ASSY	AWZ5492	
	├	CONTROL ASSY	AWZ5493	
	├	HEADPHONE ASSY	AWZ5494	
	├	SP ASSY	AWZ5495	
	├	POWER SW ASSY	AWZ5496	
	├	TRANS ASSY	AWZ5497	
	└	POWER AMP ASSY	AWZ5500	
NSP	AF ASSY (For A−103)		AWK1788	
	├	FUNCTION ASSY	AWZ5492	
	├	CONTROL ASSY	AWZ5493	
	├	POWER SW ASSY	AWZ5496	
	├	HEADPHONE ASSY	AWZ5498	
	├	SP ASSY	AWZ5499	
	├	POWER AMP ASSY	AWZ5501	
	└	TRANS ASSY	AWZ5538	
FUNCTION ASSY				
SEMICONDUCTORS				
	IC101		LC7818	
	IC102,IC103		UPC4570C	
	Q104,Q111		2SA933S	
	Q103,Q110		2SC1740S	
	Q101,Q102,Q106−Q109		2SK246	
	Q105		DTA124ES	
	D101−D103,D106−D109		1SS252	
	D110		MTZJ20	
	D104,D105		MTZJ8.2	
COILS AND FILTERS				
	L101−L104		LAU121K	
	L105,L106		LAU221K	
CAPACITORS				
	C147,C148,C153,C154	(2.2/50)	ACH1260	
	C149,C150	(47/25)	ACH1261	
	C132,C133		CCCSL101J50	
	C156,C157		CCCSL151J50	
	C101−C114,C122,C123,C139		CCCSL221J50	
	C143,C144		CCCSL221J50	
	C118,C119		CCCSL330J50	
	C162		CEANP4R7M50	
	C136,C137		CEAS101M25	
	C115		CEAS102M16	
	C120,C121,C130,C131		CEAS2R2M50	
	C159,C160		CEAS2R2M50	
	C124,C125,C151,C152		CEAS470M25	
	C116		CEAS4R7M50	
	C138		CFTYA104J50	
	C155		CFTYA473J50	
	C117		CFTYA563J50	
	C145,C146		CFTYA823J50	
	C141,C142		CFTYA824J50	
	C161		CKCYF103Z50	
	C126,C127,C134,C135		CQMA222J50	
	C128,C129		CQMA822J50	
RESISTORS				
⚠	R182		RFA1/4PS4R7J	
	VR101	(100k−A5×2)	ACT1084	
		Other Resistors	RD1/8PM□□□J	
OTHERS				
	CN11	(PIN JACK−8P)	AKB1127	
	CN10	(PIN JACK−8P)	AKB1219	
	CN1	CONNECTOR(15P)	KPE15	
CONTROL ASSY				
SEMICONDUCTORS				
	IC201		NJM4558DXP	
	Q201,Q202		2SC2878	
	D209	(Red)	AEL1065	
	D208	(Orange)	AEL1084	
	D201−D206	(Red)	AEL1148	
SWITCHES AND RELAYS				
	S208		ASG1019	
	S201−S206		ASG1034	
	S207		ASG1079	
CAPACITORS				
	C223,C224		CCCSL151J50	
	C217,C218		CCCSL271J50	
	C221,C222		CCCSL470J50	
	C219		CEANP220M35	
	C205,C206		CEAS2R2M50	

Mark	No.	Description	Parts No.	Mark
	C207,C208,C227,C228		CEAS470M25	
	C213,C214		CFTYA154J50	
	C211,C212		CFTYA184J50	
	C209,C210		CFTYA333J50	
	C215,C216		CFTYA824J50	
	RESISTORS			
	R258−R260		RD1/4PM182J	
	VR202,VR203	(10k−20A×2)	ACS1113	
	VR201	(250k−B×2)	ACS1114	
		Other Resistors	RD1/8PM□□□J	
	OTHERS			
	SOCKET	(10P)	AKP1044	

HEADPHONE ASSY

Mark	No.	Description	Parts No.	Mark
	SWITCHES AND RELAYS			
	S501	(A−203 only)	SUL6LXXS	
	CAPACITORS			
	C501,C502	(A−203 only)	CKCYB392K50	
	C503,C504	(A−103 only)	CKCYB392K50	
	RESISTORS			
⚠	R501,R502	(A−203 only)	RS2LMF331J	
⚠	R505,R506	(A−103 only)	RS1LMF331J	
	OTHERS			
	JACK (Headphone)	(For A−203)	AKN1002	
	JACK (Headphone)	(For A−103)	AKN1010	

SP ASSY

Mark	No.	Description	Parts No.	Mark
	SEMICONDUCTORS			
	Q401		2SC4793	
	D405		1SS252	
	D404		RD16ESB2	
	D402,D403		S5566	
	CAPACITORS			
⚠	C409	(0.01/400)	ACG1002	
	C401,C402	(6800/50) (For A−203)	ACH1105	
	C401,C402	(4700/42) (For A−103)	ACH1269	
	C407		CEAS101M50	
	C410,C411		CEAS470M50	
	C403,C404		CKCYB472K50	
	C405,C406	(A−203 only)	CKCYB472K50	
	RESISTORS			
⚠	R401,R403		RFA1/4PS4R7J	
		Other Resistors	RD1/4PM□□□J	
	OTHERS			
	SCREW		ABA−298	
	SPEAKER TERMINAL	8−P (For A−203)	AKE1011	
	SPEAKER TERMINAL	4−P (For A−103)	AKE1054	
⚠	CN6	(AC INLET−1P)	AKP1132	

POWER SW ASSY

Mark	No.	Description	Parts No.	Mark
	SWITCHES AND RELAYS			
⚠	S601		ASG1035	
	CAPACITORS			
⚠	C601	(0.01/400)	ACG1002	

TRANS ASSY

Mark	No.	Description	Parts No.	Mark
	SEMICONDUCTORS			
	D701	(For A−203)	D5SB20F	
	D701	(For A−103)	D3SBA20	
	CAPACITORS			
	C701,C702		CFTYA824J50	
	RESISTORS			
⚠	R702		RFA1/4PS100J	
⚠		Other Resistors	RD1/4PM□□□J	

POWER AMP ASSY

Mark	No.	Description	Parts No.	Mark
	SEMICONDUCTORS			
	IC301		UPC4570C	
	Q305,Q306		2SA1145	
	Q322		2SA1837	
	Q313,Q314		2SA965	
	Q303,Q304		2SA992	
	Q317,Q318		2SC1740S	
	Q301,Q302,Q315,Q316		2SC1845	
	Q311,Q312		2SC2235	
	Q319		2SC2240	
	Q309,Q310		2SC2458	
	Q307,Q308		2SC2705	
	Q321		2SC4793	
	D301−D308,D313−D322		1SS252	
	D326,D327		1SS252	
	D323		MTZJ13	
	D329−D332	(A−103 only)	MTZJ3.3	
	D309−D312		MTZJ6.2A	
	D324,D325		RD16ESB2	
	SWITCHES AND RELAYS			
	RY301		ASR−111	
	CAPACITORS			
	C301,C302,C313,C314	(2.2/50)	ACH1260	
	C331,C332	(47/25)	ACH1261	
	C305,C306,C324,C325	(100/25)	ACH1262	
	C309−C312		CCCSL560K500	
	C326		CEAS101M25	
	C318		CEAS2R2M50	
	C317		CEAS471M6	
	C315,C316		CEAS4R7M50	
	C327,C328		CFTYA104J50	
	C319−C322		CFTYA224J50	
	C329,C330		CKCYB102K50	
	C303,C304		CKCYB471K50	
	RESISTORS			
⚠	R347,R348	(0.33/5W)	ACN−139	
⚠	R362,R363	(For A−203)	RD1/2PMF331J	
⚠	R362,R363	(For A−103)	RD1/2PMF271J	
⚠	R369,R370		RD1/2PMFL4R7J	
⚠	R385		RD1/4PMF100J	
⚠	R357		RD1/4PMF101J	
⚠	R349,R350		RD1/4PMF222J	
⚠	R337−R340		RD1/8MMF101J	
⚠	R341,R342		RD1/8MMF271J	
⚠	R367,R368		RD1/8MMF4R7J	

Mark	No.	Description	Parts No.	Mark
⚠	R323－R326		RD1/8MMF511J	
⚠	R327－R330		RD1/8MMF680J	
	R371,R372 (For A－203)		RDR1/4PM392J	
	R371,R372 (For A－103)		RDR1/4PM332J	
⚠	R343－R346		RFA1/4PS4R7J	
	R331,R332		RN1/4PC1501F	
	R335,R336		RN1/4PC6800F	
	Other Resistors		RD1/8PM□□□J	

OTHERS

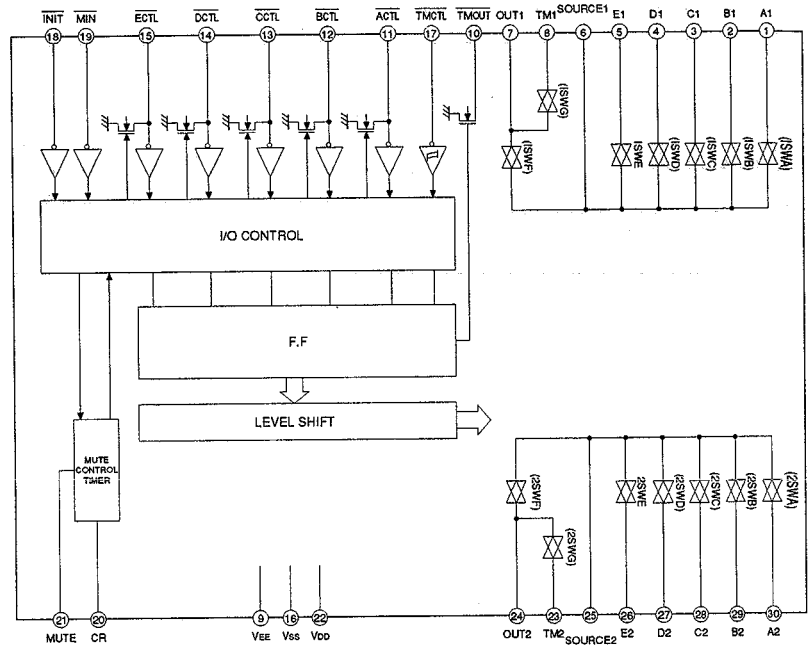
	PLUG	(10P)	AKM1037
	CN2	CONNECTOR(13P)	KPE13
	CN3	CONNECTOR(7P)	KPE7

7. IC INFORMATION

● The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ LC7818 (IC101)
Input Selector IC

●Block diagram

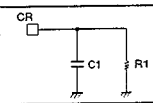

INIT MIN ECTL DCTL CCTL BCTL ACTL TMCTL TMOUT OUT1 TM1 SOURCE1 E1 D1 C1 B1 A1
18 19 15 14 13 12 11 17 10 7 8 6 5 4 3 2 1
I/O CONTROL
F.F
LEVEL SHIFT
MUTE CONTROL TIMER
(1SWF) (1SWG) (1SWE) (1SWD) (1SWC) (1SWB) (1SWA)
(2SWF) (2SWG) (2SWE) (2SWD) (2SWC) (2SWB) (2SWA)
21 20 9 16 22 24 23 25 26 27 28 29 30
MUTE CR VEE VSS VDD OUT2 TM2 SOURCE2 E2 D2 C2 B2 A2

●Pin Function

No.	Name	Function
1	A1	Audio signal input
2	B1	
3	C1	
4	D1	
5	E1	
6	SOURCE1	Recording output
7	OUT1	Audio signal output
8	TM1	Audio signal input
9	V_{EE}	1. When power supply (+) is used: V_{SS}=V_{EE}=GND 2. When power supply (+−) is used: V_{SS}=GND, V_{EE}=(−)V
10	$\overline{TMOUT}$	TM ON/OFF display LED driver output
11	$\overline{ACTL}$	Input/output pin for analog switch control and display LED driver output
12	$\overline{BCTL}$	
13	$\overline{CCTL}$	
14	$\overline{DCTL}$	
15	$\overline{ECTL}$	
16	V_{SS}	1. When power supply (+) is used: V_{SS}=V_{EE}=GND 2. When power supply (+−) is used: V_{SS}=GND, V_{EE}=(−)V

No.	Name	Function
17	$\overline{TMCTL}$	TM control input
18	$\overline{INIT}$	Mode setting input Operations According to the Combination of $\overline{INIT}$ and $\overline{MIN}$ Inputs
19	$\overline{MIN}$	

$\overline{INIT}$	$\overline{MIN}$	Operations
H	M	Localization
H	L	Backup
H	H	Auto function
L	M	Mute
L	L	Initialize (Circuit A)
L	H	Reset

No.	Name	Function
20	CR	Clock oscillation input/output Connected to C1 and R1 
21	MUTE	Mute control output
22	V_{DD}	Power supply
23	TM2	Audio signal input
24	OUT2	Audio signal output
25	SOURCE2	Recording output
26	E2	Audio signal input
27	D2	
28	C2	
29	B2	
30	A2	

8. FOR A-203/HBXJ, HEWZXJ, HLXJ, SDXJ, A-103/HBXJ, HEWZXJ, HLXJ, SDXJ AND YPWXJ

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

8.1 CONTRAST OF MISCELLANEOUS PARTS FOR A-203/HBXJ, HEWZXJ, HLXJ AND SDXJ.

A-203/HBXJ, HEWZXJ, HLXJ, SDXJ and A-203/HEXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.					Remarks
		A-203 HEXJ	A-203 HBXJ	A-203 HEWZXJ	A-203 HLXJ	A-203 SDXJ	
NSP	AF assembly	AWK1787	AWK1822	AWK1787	AWK1787	AWK1823	
	FUNCTION assembly	AWZ5492	AWZ5521	AWZ5492	AWZ5492	AWZ5492	
	CONTROL assembly	AWZ5493	AWZ5523	AWZ5493	AWZ5493	AWZ5493	
	SP assembly	AWZ5495	AWZ5524	AWZ5495	AWZ5495	AWZ5525	
	POWER SW assembly	AWZ5496	AWZ5526	AWZ5496	AWZ5496	AWZ5496	
⚠	T1 Power transformer (AC220−230V/240V)	ATS1538	ATS1538	ATS1538	ATS1538	.....	
⚠	T1 Power transformer (AC110V/120−127V/220V/240V)	.....	.....	.....	.....	ATS1539	
⚠	Voltage selector (AC110V/120−127V/220V/240V)	.....	.....	.....	.....	AKX−507	Refer to page5.
⚠	AC outlet	.....	.....	.....	.....	AKP−515	Refer to page5.
⚠	FU2 Fuse (1.25A)	.....	.....	.....	.....	REK1023	Refer to page5.
⚠	AC power cord	ADG1154	ADG1156	ADG1154	ADG1154	ADG1158	
	Rear panel	ANC2173	ANC2174	ANC2172	ANC2201	ANC2175	
	Insulator (for front/rear)	PNW1912	PNW1912	PNW1912	.....	.....	
	Insulator (for front)	.....	.....	.....	DXA1490	DXA1490	
	Foot (for rear)	.....	.....	.....	AEC1505	AEC1505	
	Front panel	AMB2231	AMB2233	AMB2231	AMB2231	AMB2231	
	Operating instructions (English/French/German/Italian/ Swedish/Spanish/Dutch/ Portuguese)	ARE1302	.....	.....	.....	.....	
	Operating instructions (English)	.....	ARB1468	.....	.....	.....	
	Operating instructions (German)	.....	.....	ARC1455	.....	.....	
	Operating instructions (English/Chinese)	.....	.....	.....	ARE1300	.....	
	Operating instructions (English/Spanish/Chinese)	.....	.....	.....	.....	ARE1301	
	Packing case	AHD2672	AHD2672	AHD2672	AHD2701	AHD2701	

FUNCTION ASSEMBLY
AWZ5521 and AWZ5492 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5492	AWZ5521	
	D106−D109	1SS252	.....	
	Q106−Q109	2SK246	.....	
	R159, R160	RD1/8PM104J	.....	
	R161, R162	RD1/8PM273J	.....	
	R163, R164	RD1/8PM393J	.....	
	R165−R168	RD1/8PM105J	.....	
	R175−R178	RD1/8PM475J	.....	
	C143, C144	CCCSL221J50	.....	
	C145, C146	CFTXA823J50	.....	
	C159, C160	CEAS2R2M50	.....	

CONTROL ASSEMBLY
AWZ5523 and AWZ5493 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5493	AWZ5523	
	Q203, Q204	.....	2SC2878	
	R238	RD1/8PM103J	.....	
	R261, R262	.....	RD1/8PM100J	
	R263, R264	.....	RD1/8PM103J	
	R265, R267	.....	RD1/8PM332J	
	R266	.....	RD1/8PM153J	
	R268	.....	RD1/8PM333J	
	C219	CEANP220M35	.....	
	C225	.....	CEANP4R7M50	

SP ASSEMBLY
AWZ5524, AWZ5525 and AWZ5495 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ5495	AWZ5524	AWZ5525	
	C403−C406	CKCYB472K50	.....	.....	
	Speaker terminal 8−P	AKE1011	AKE1036	AKE1011	
⚠	CN6 (AC INLET−1P)	AKP1132	AKP1133	AKP1132	

POWER SW ASSEMBLY
Although AWZ5526 and AWZ5496 are different in part number, they have the same service parts.

8.2 CONTRAST OF MISCELLANEOUS PARTS FOR A-103/HBXJ, HEWZXJ, HLXJ SDXJ AND YPWXJ.

A-103/HBXJ, HEWZXJ, HLXJ, SDXJ, YPWXJ and A-103/HEXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.						Remarks
		A-103 HEXJ	A-103 HBXJ	A-103 HEWZXJ	A-103 HLXJ	A-103 SDXJ	A-103 YPWXJ	
NSP	AF assembly	AWK1788	AWK1825	AWK1788	AWK1788	AWK1826	AWK1788	
	SP assembly	AWZ5499	AWZ5529	AWZ5499	AWZ5499	AWZ5530	AWZ5499	
	POWER SW assembly	AWZ5496	AWZ5526	AWZ5496	AWZ5496	AWZ5496	AWZ5496	
⚠	T1 Power transformer (AC220−230V/240V)	ATS1540	ATS1540	ATS1540	ATS1540	.....	ATS1540	
⚠	T1 Power transformer (AC110V/120−127V/220V/240V)	.....	.....	.....	.....	ATS1541	.....	
⚠	Voltage selector (AC110V/120−127V/220V/240V)	.....	.....	.....	.....	AKX−507	.....	Refer to page5.
⚠	AC outlet	.....	.....	.....	.....	AKP−515	.....	Refer to page5.
⚠	FU2 Fuse (800mA)	.....	.....	.....	.....	REK1021	.....	Refer to page5.
⚠	AC power cord	ADG1154	ADG1156	ADG1154	ADG1154	ADG1158	ADG1160	
	Rear panel	ANC2177	ANC2178	ANC2176	ANC2202	ANC2179	ANC2178	
	Insulator	PNW1912	PNW1912	PNW1912	.....	.....	.....	
	Foot	.....	.....	.....	AEC1505	AEC1505	AEC1505	
	Front panel	AMB2232	AMB2232	AMB2232	AMB2234	AMB2234	AMB2234	
	Operating instructions (English/French/German/Italian/ Swedish/Spanish/Dutch/ Portuguese)	ARE1302	.....	.....	.....	.....	.....	
	Operating instructions (English)	.....	ARB1468	.....	.....	.....	ARB1468	
	Operating instructions (German)	.....	.....	ARC1455	.....	.....	.....	
	Operating instructions (English/Chinese)	.....	.....	.....	ARE1300	.....	.....	
	Operating instructions (English/Spanish/Chinese)	.....	.....	.....	.....	ARE1301	.....	
	Packing case	AHD2673	AHD2673	AHD2673	AHD2702	AHD2702	AHD2673	

SP ASSEMBLY

AWZ5529, AWZ5530 and AWZ5499 have the same construction except for the following:

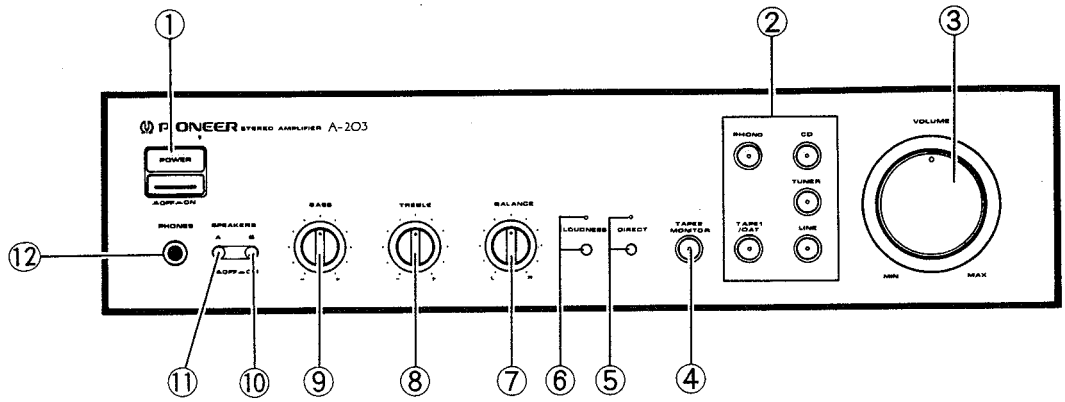
Mark	Symbol & Description	Part No.			Remarks
		AWZ5499	AWZ5529	AWZ5530	
	C403, C404	CKCYB472K50	.....	.....	
⚠	CN6 (AC INLET−1P)	AKP1132	AKP1133	AKP1132	

POWER SW ASSEMBLY

Although AWZ5526 and AWZ5496 are different in part number, they have the same service parts.

9. PANEL FACILITIES

1 The illustration shows model A-203.



Model A-103 is not equipped with ⑩ and ⑪.

FRONT PANEL See Fig. 1

① POWER switch
Press to turn power to the unit ON and OFF.

② Input Selector switch/indicator
Use to select the playback source.
PHONO:
For record playback with a turntable.
CD:
For compact disc playback with a CD player.
TUNER:
For AM or FM broadcast reception with a tuner.
LINE:
Set to this position when listening to the programs from a component connected to the LINE terminals.
TAPE 1/DAT:
For playback with a cassette deck or digital audio tape deck connected to the TAPE 1/DAT terminals.

③ VOLUME control
Use to adjust the volume level.

④ TAPE 2 MONITOR switch/indicator
Use when there is an adaptor component (graphic equalizer, etc.) or cassette deck connected to the TAPE 2 MONITOR terminals.
ON:
Indicator lights when using the adaptor component or listening to the cassette deck.
OFF:
Indicator goes out when not in use.
NOTE:
- *When no connections are made to the TAPE 2 MONITOR terminals, or when they are not in use, be sure to set this switch to the OFF position. (No sound will be heard if it is set to the ON position.)*
- *When the TAPE 2 MONITOR indicator is on and the input selector switch is not set to TAPE 1/DAT, the signals which are input through TAPE 2 MONITOR are then output at TAPE 1/DAT REC OUT.*

⑤ DIRECT switch/indicator
Use this switch when you do not wish to pass the output from input terminal equipment through the various frequency adjusting circuits (BASS, TREBLE, BALANCE, LOUDNESS.)
ON:
The indicator lights: The signals input through the input terminals are reproduced without passing through the various frequency adjusting circuits. This results in flat, pure sound which is a more faithful reproduction of the input source.
OFF:
The indicator goes out: The signal passes through the various frequency adjusting circuits.

⑥ MUTING button/indicator (Only U.K. model of A-203)
Use to temporarily cut sound volume.
ON: (Red illumination)
The indicator lights. The sound volume will be reduced −20dB.
OFF:
The indicator goes off. The sound will return to its previous volume.

⑥ LOUDNESS switch/indicator (Except U.K. model of A-203)
Use when listening at low volume levels.
ON:
The indicator lights: Boosts low and high frequencies to give added punch to playback even at low volume levels.
OFF:
The indicator goes off: Should normally be left in this position.
NOTE:
This control does not operate when the DIRECT switch is in the ON position.

⑦ BALANCE control
Should normally be left in the center position. Adjust the balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the L (left) position and if the left side is louder, turn toward the R (right) position.
NOTE:
This control does not operate when the DIRECT switch is in the ON position.

⑧ TREBLE tone control

Use to adjust the high-frequency tone. The center position is the flat (normal) position. When turned to the right, high-frequency tone is emphasized; when turned to the left, high-frequency tone is de-emphasized.

NOTE:

This control does not operate when the DIRECT switch is in the ON position.

⑨ BASS tone control

Use to adjust the low-frequency tone. The center position is the flat (normal) position. When turned to the right, low-frequency tone is emphasized; when turned to the left, low-frequency tone is de-emphasized.

NOTE:

This control does not operate when the DIRECT switch is in the ON position.

⑩ SPEAKERS B selector switch (A-203 only)

Use this switch to listen to the speaker system connected to the SPEAKERS B terminals.

ON (▬):

Depressed position: Sound is heard from the speaker system.

OFF (▁):

Released position: No sound is heard from the speaker system. Set to this position when listening with headphones

⑪ SPEAKERS A selector switch (A-203 only)

Use this switch to listen to the speaker system connected to the SPEAKERS A terminals.

ON (▬):

Depressed position: Sound is heard from the speaker system.

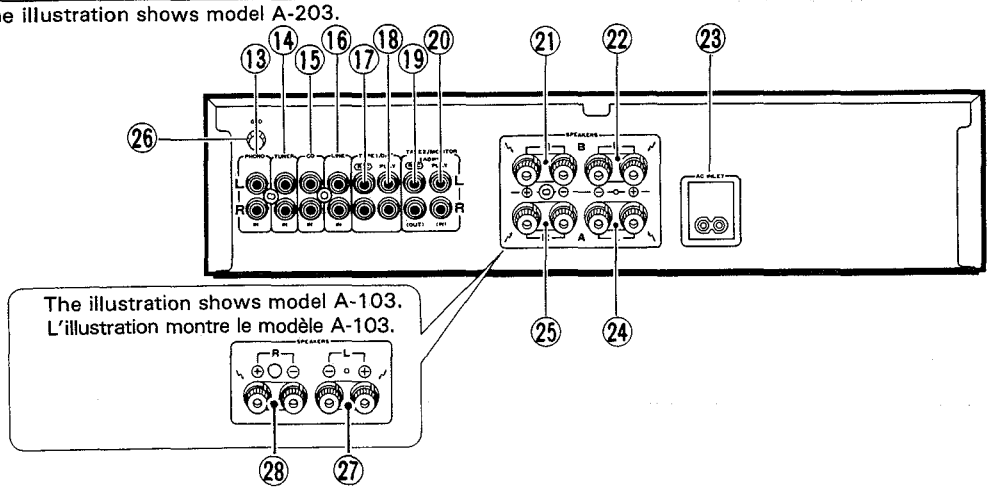
OFF (▁):

Released position: No sound is heard from the speaker system. Set to this position when listening with headphones.

⑫ PHONES jack

When using headphones, insert the plug into this jack.
With model A-103 the output to the speakers is cut automatically when connecting headphones.

2 The illustration shows model A-203.



Model A-103 is not equipped with ㉑, ㉒, ㉔ and ㉕.

REAR PANEL — See Fig. 2

⑬ **PHONO terminals**

⑭ **TUNER terminals**

⑮ **CD terminals**

⑯ **LINE terminals**

⑰ **TAPE 1/DAT REC terminals**

⑱ **TAPE 1/DAT PLAY terminals**

⑲ **TAPE 2/MONITOR (ADPT) REC(OUT) terminals**

⑳ **TAPE 2/MONITOR (ADPT) PLAY(IN) terminals**

㉑ **SPEAKERS B terminals (right channel) (A-203 only)**

㉒ **SPEAKERS B terminals (left channel) (A-203 only)**

㉓ **AC INLET jack**
Connect power cord to here and an AC wall socket, or the AC outlet of an audio timer.
If you are going to be away from home for a long period of time, disconnect the unit from the wall socket.

㉔ **SPEAKERS A terminals (left channel) (A-203 only)**

㉕ **SPEAKERS A terminals (right channel) (A-203 only)**

㉖ **GND (Turntable ground) terminal**

㉗ **SPEAKERS terminals (left channel) (A-103 only)**

㉘ **SPEAKERS terminals (right channel) (A-103 only)**

10. SPECIFICATIONS

[A-203]

Amplifier Section

Continuous power output
(both channels driven at 20 Hz to 20 kHz)**
T.H.D. 0.07 %, 8 Ω ..... 35 W + 35 W*
T.H.D. 0.1 %, 4 Ω ..... 40 W + 40 W*
DIN Continuous power output (both channels driven at 1 kHz)
T.H.D. 1.0 %, 8 Ω ..... 45 W + 45 W
T.H.D. 1.0 %, 4 Ω ..... 55 W + 55 W
Dynamic power output (E.I.A. test signal)
4 Ω ..... 66 W
Total harmonic distortion**
20 Hz to 20 kHz, 17,5 W, 8 Ω ..... 0.05 %*
• *Above specifications are for when power supply is 230 V.*
Input sensitivity/impedance
PHONO (MM) ..... 2.8 mV/50 kΩ
CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR ... 200 mV/50 kΩ
PHONO overload level
1 kHz, T.H.D. 0.1 % (MM) ..... 150 mV
Output level/impedance
TAPE REC, ADPT OUT ..... 200 mV/1 kΩ
Frequency response
PHONO (MM) ..... 20 Hz to 20 kHz ±0.5 dB
CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR,
..... 5 Hz to 100 kHz $^{+0}_{-3}$ dB*
Tone control
BASS ..... ± 8 dB (100 Hz)
TREBLE ..... ± 8 dB (10 kHz)
Loudness contour (volume control set at −30 dB position)
Australian model only
..... +5 dB (100 Hz)/+3 dB (10 kHz)
Signal-to-Noise ratio (IHF short circuit, A network)
PHONO (MM, 5 mV input) ..... 82 dB*
CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR ..... 105 dB*
Signal-to-Noise ratio (DIN, continuous power/50 mW)
PHONO (MM) ..... 68 dB/64 dB*
CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR .... 85 dB/67 dB*

Power Supply/Miscellaneous

Power requirements ..... AC 220 − 230 Volts, 50/60 Hz
Power consumption ..... 330 W
Dimensions (including knobs and other protruding parts)
..... 420 (W) × 312 (D) × 110 (H) mm
Weight (without package) ..... 5.2 kg

Accessories

Operating instructions 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

* Measured with the DIRECT switch set to ON.
** Measured by Audio Spectrum Analyzer.

[A-103]

Amplifier Section

Continuous power output
(both channels driven at 20 Hz to 20 kHz)**
T.H.D. 0.1 %, 8 Ω ..... 25 W + 25 W*
DIN Continuous power output (both channels driven at 1 kHz)
T.H.D. 1.0 %, 8 Ω ..... 30 W + 30 W
Total harmonic distortion**
20 Hz to 20 kHz, 12,5 W, 8 Ω ..... 0.05 %*
• *Above specifications are for when power supply is 230 V.*
Input sensitivity/impedance
PHONO (MM) ..... 2.8 mV/50 kΩ
CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR ... 200 mV/50 kΩ
PHONO overload level
1 kHz, T.H.D. 0.1 % (MM) ..... 150 mV
Output level/impedance
TAPE REC, ADPT OUT ..... 200 mV/1 kΩ
Frequency response
PHONO (MM) ..... 20 Hz to 20 kHz ±0.5 dB
CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR,
..... 5 Hz to 100 kHz $^{+0}_{-3}$ dB*
Tone control
BASS ..... ± 8 dB (100 Hz)
TREBLE ..... ± 8 dB (10 kHz)
Loudness contour (volume control set at −30 dB position)
..... +5 dB (100 Hz)/+3 dB (10 kHz)
Signal-to-Noise ratio (IHF short circuit, A network)
PHONO (MM, 5 mV input) ..... 82 dB*
CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR ..... 105 dB*
Signal-to-Noise ratio (DIN, continuous power/50 mW)
PHONO (MM) ..... 68 dB/64 dB*
CD, TUNER, LINE, TAPE 1/DAT, TAPE 2 MONITOR ... 85 dB/67 dB*

Power Supply/Miscellaneous

Power requirements ..... AC 220 − 230 Volts, 50/60 Hz
Power consumption ..... 210 W
Dimensions (including knobs and other protruding parts)
..... 420 (W) × 312 (D) × 110 (H) mm
Weight (without package) ..... 4,2 kg

Accessories

Operating instructions 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

* Measured with the DIRECT switch set to ON.
** Measured by Audio Spectrum Analyzer.